Investigating consumer motivations for sustainable hotel practices and the effect on satisfaction and attitudinal loyalty

by

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A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Hospitality Management

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2018

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ACKNOWLEDGMENTS

First and foremost, I would like to thank my wife who has stood by me in the pursuit of my dream and provided me all her support. I would like to offer my gratitude to Dr. Liang Tang, my major professor and Dr. Bosselman, my study advisor. Dr. Tang encouraged me to reflect on my writing and look at my arguments critically, bringing new perspectives to my thinking and forcing me to focus my writing. I would like to thank Dr. Bosselman for encouraging me to continue with my work and for giving the opportunity to reflect with him on my approach to completing my research. Without Dr. Bosselman's guidance, knowledge, and experience, I don't know that I would have persevered.

I would like to thank Dr. Zheng for his willingness to take on special projects with me and guiding me through the interesting world of structural equation modeling. Dr. Thomas Schrier, I would like to thank for his support with work during my tenure in the doctoral program. Special thanks go to Dr. Blankenship for making time to talk with me over the phone and Dr. Raju for his support. Special gratitude goes to the staff of the ASHEM department who proved invaluable in helping with various tasks, challenging to do for a distance student from afar. My summers spent in Ames will always hold a special place in my heart.

ABSTRACT

Sustainable hotel practices focus on minimizing the negative impact of hospitality operations on the environment and the global climate. Hotels are resource demanding utilizing more water and electricity and generating more solid waste per person than in a residential setting. Public concern over environmental degradation is growing in step with consumer demand for sustainable business practices. This study employed the theory of planned behavior to understand better the underlying motivations of hotel guests to engage in the sustainable efforts of hotel practitioners. Structural equation modeling was used to empirically investigate what drives guest motivations toward participation in sustainable hotel practices and what the effect is on guest satisfaction and loyalty formation. Loyalty points or discount vouchers are used to encourage guests to participate in sustainable practices. Consumer concern for the environment, subjective norms, hedonic beliefs, and self-image congruence were evaluated. The effects of engaging in sustainable practices on guest satisfaction and attitudinal loyalty were evaluated as well as the moderating effect of involving guests in sustainable practices. The study revealed customers' intrinsic motivations were more significant in motivating them to engage in sustainable activities than external rewards. The discussion includes reflections on managerial and theoretical implications.

CHAPTER 1. INTRODUCTION

Sustainable hotel practices have become increasingly influential on both customer choices and marketing activities (Kotler, 2011). Hotels are resource-demanding operations, which consume large amounts of energy per guest served including electricity for heating, air-conditioning, and ventilation (HVAC), lighting, elevators and hot water supply (Gössling et al., 2012; Manaktola & Jauhari, 2007). Water consumption in hotels far exceeds that by the same per-capita in homes largely because of the daily cleaning of rooms, kitchen operations, and frequency of laundry (Gössling et al., 2012). The high demands on water are often exacerbated with visitor arrivals occurring during a location's dry periods where pleasure-seeking vacationers use water in disproportionate volume (Gössling, 2015). Overnight guests generate significantly more solid waste than residents at the same location (Manomaivibool, 2015). Manomaivibool, (2015) found waste generated across accommodations with varied level of service, from guest-house to luxury hotels, generated on average 1.75 kg of solid waste per guest, whereas households in the same area generated 0.8 kg per capita. Several studies of energy use in hotels revealed a significant amount of energy is wasted because of a resistance to adopt best practices, which would present the potential for energy enhancement and conservation of resources without affecting customer service (Bohdanowicz, & Martinac, 2007; Chan, Okumus, & Chan, 2015: Gössling, 2015; Manomaivibool, 2015).

Most lodging firms have instituted sustainability programs intended to reduce the impact of their operations on the environment (Miao & Wei, 2013). Environmental impacts of normal hotel operations include greenhouse gas emissions from energy use, abundant use

of fresh water, and waste generated. The most common sustainable hotel practices (SHP) that engage customers are towel reuse, minimizing water use, recycling, waste reduction, and energy efficient lighting (Han & Hyun, 2018; Lee, Hsu, Han, & Kim, 2010). The resource savings of these programs are among the "green" low-hanging-fruit, and their benefits have been established well in the extant literature (Berezan, Raab, Yoo, & Love, 2013; Mensah, 2006). Hotel managers have taken steps beyond minimal programs as demands for sustainability initiatives based on the requests of stakeholders, including governments, business organizations, and independent consumers (Kang, Stein, Heo, & Lee, 2012; Kim, Palakurthi, & Hancer, 2012; Olanipekun, 2016). Green hotels are properties geared toward sustainable environmental practices that seek to minimize the use of energy and water and reduce solid waste in the normal course of operation to avoid depletion of the Earth's finite natural resources (Green Hotels Association, 2017). Furthermore, hotels that do not meet the U.S. Leadership in Energy & Environmental Design (LEED) requirement for sustainable practices are not eligible to transact with many municipalities and federal agencies that have expressed purchasing policies requiring a preference toward green suppliers (California State Government, 2017). To stay competitive, hoteliers are inclined to adopt more rigorous environmentally-friendly practices (Baca-Motes, Brown, Gneezy, Keenan, & Nelson, 2013). Municipal leaders are joining in and beginning to demand changes toward sustainability (Butler, 2008). For example, New York City's Mayor De Blasio recently announced new energy efficiency standards, which would affect public buildings larger than 25,000 square feet, including most lodging operations in the five boroughs of New York (Neuman, 2017). These initiatives, intended to reduce emissions of greenhouse gases by 2050, will have a profound effect on how operators update their properties and how practitioners communicate

to their customers. The potential for hotel practitioners to improve operational efficiency and resource use through structural improvements and guest involvement is extensive (Chan, 2011; Leonidou, Coudounaris, Kvasova, & Christodoulides, 2015).

Despite overwhelming evidence for the need to make hotel operations more sustainable, many practitioners are reluctant to embrace sustainable practices (Kang et al., 2012). Stakeholders in hotel operations, including owners and marketers, promote the implementation of environmental management systems, but operators' exhibit reluctance to adopt sustainable practices (Chan, 2011; Chan et al., 2015). Specifically, Chan (2011) noted uncertainty of results, varying support, and ambiguity in guidance and standards as reasons for the reluctance to embrace the sustainability initiatives. Hoteliers are concerned that guests would view the initiatives as cost-cutting, a lowering of service standards, and potentially a diminishment of the hedonic experience, which were noted as obstacles of implementation (Baker, Davis, & Weaver, 2014). However, despite complications, an increasing number of hotel practitioners are embracing sustainable practices under mounting pressure from consumers, employees, and marketers (Chan et al., 2015). Chan et al. (2015) noted a progressive evolution of attitudes among practitioners from professed lack of knowledge of SHP to primary concerns over a return on investment.

Consumers' concerns about the environmental impact of their purchasing behavior are on the rise (Verma & Chandra, 2018). Hotel guests' awareness about environmental degradation is well documented (Berezan et al., 2013; Kang et al., 2012; Miao & Wei, 2013), but little research exists on the specific orientation of customer motivation to engage in SHP (Leonidou et al., 2015; Miao & Wei, 2013; Millar, Mayer, & Baloglu, 2012). A majority of hotel guests consider themselves environmentally conscious and are demanding that hotel

companies they transact with engage in SHP (Berezan et al., 2013; Leonidou et al., 2015; Millar et al., 2012). Hotel operators are beginning to realize customer attitude toward sustainable practices is impacting guest purchasing behavior and ultimately the hotel company's bottom line (Kim et al., 2012).

An individual's attitude is defined as "an enduring disposition to consistently respond in a given manner to various aspects of the world; composed of affective, cognitive, and behavioral components" (Zikmund & Babin, 2006, p. 330). Whether the consumer's attitude or motivation is intrinsic; (originating within the individual) or extrinsic (arising from outside the individual dependent on rewards) is important to decipher so that the appropriate encouragement can be employed to produce an increase in the desired attitude. An individual's intrinsic motivation comes from the pleasure of performing the activities and is not concerned with reward from an external agent, whereas extrinsic motivators influence individuals to engage in an activity that will lead to an external reward or benefit (Deci & Ryan, 2000). Nearly all hotel operators encourage guests' participation in SHP and attempt to affect attitudes toward such activities primarily through the use of discount vouchers or loyalty points (Manaktola & Jauhari, 2007). Practitioners who design and manage hotel guest rewards and loyalty programs are concerned with loyalty orientation and return business (Xie, Xiong, Chen, & Hu, 2015). Reward programs have been shown to be one of the strongest mechanisms to build loyalty and to create an enduring relationship with repeat guests (Berezan, Raab, Tanford, & Kim, 2015). However, recent research on motivation for SHP has revealed hotel guests with a proclivity toward environmental practices are not as encouraged by cash incentives for environmental initiatives as they are by the conservation act itself (Baca-Motes et al., 2013; Han, Hsu, & Sheu, 2010; Huang, Lin, Lai, & Lin, 2014).

Increasing concern for the environment among consumers (Hartmann & Apaolaza-Ibáñez, 2012; Manaktola & Jauhari, 2007) has been reasoned as an antecedent to customer satisfaction with purchase of eco-friendly hotel services (Amendah & Park, 2008). Therefore, the following study investigated the alignment between hotel practitioners' approaches and guest motivations for sustainable hotel practices.

Understanding how customers form their purchasing decisions in the context of green hotels is important to assist marketers in aiming the direction of their marketing strategies. Investigating the factors driving customer decisions could provide an important clue into their decision-making progression (Han & Kim, 2010). The theory of planned behavior (TPB) was employed as the theoretical foundation in this study to evaluate the decision making of environmentally conscious customers. TPB postulates three independent determinants of intention: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Attitude refers to a personal preference for the behavior in question on a gradient between unfavorable and favorable. Subjective norm denotes perceptions of social pressure by the person to conform. The third determinant, perceived behavioral control, refers to the ease with which the person can perform the intended behavior based on previous experiences (Ajzen, 1991). The three determinants of TPB to consumer intention in the context of ecopsychology significantly motivate consumers to search for sustainable alternatives and choose green hotels (Han et al., 2010; Laroche, Bergeron, & Barbaro-Forleo, 2001; Lee et al., 2010; Teng, Wu, & Liu, 2015). Ecopsychology is a concept concerning the connection between humans and the environment in the social context.

Problem Statement

Sustainable hotel practices have risen in importance to a central position in both operations and marketing. Hotel operators realize sustainability must play a central role for the operation to grow and thrive. Several scholars have examined consumers' willingness to participate in sustainable hotel practices and customers' willingness to pay more for the same offerings (Kang et al., 2012). Previous research has revealed the need for more environmentally friendly hotel operations at the behest of multiple stakeholders, including consumers (Miao & Wei, 2013; Millar et al., 2012; Warren, Becken, & Coghlan, 2017). While consumers' awareness of environmental concerns related to their purchases is well established, the orientation of their motivation to engage in the mitigation of the causes is the gap in the literature. This study was intended to help fill that gap by focusing on the orientation of guest motivations toward sustainable hotel practices. The four independent variables examined in this study examined what drives consumers toward sustainable hotel practices; studies have revealed how each of the four variables has motivated action in various contexts. The four variables are *environmental concern, normative beliefs, self-image congruence, and hedonic beliefs.* No prior study has juxtaposed the four within the same study as drivers of sustainable hotel practices.

The extant research has revealed consumer attitudes toward environmentally-friendly services are determined by the perceived environmental problem, the effort required to engage in sustainable activity, propensity for environmental actions, and the expected level of sustainable actions (Han et al., 2010; Kang et al., 2012). Firms should be concerned about the environment and, thus, try to be ecologically responsible. Han et al. (2010) found despite having positive attitudes about green hotels, customers said they did not choose to stay at one

because of higher cost, inconvenience, and availability. Other potential guests are motivated by hedonism and believe that the cost of a green hotel should be the same or less than non-green hotels, and they expect to be rewarded with an incentive to stay at green hotels (Miao & Wei, 2013). Other research has revealed motivation for sustainable practices varies based on consumer demographics (Berezan et al., 2013) and purpose of visit (Millar et al., 2012). Furthermore, customers who engage in green activities at home tend to demand sustainable practices of the hotels where they stay (Miao & Wei, 2013; Millar et al., 2012). Consumers' decisions to make green purchases are influenced by subjective norms enforced by or allied with the consumer's reference group (Han et al., 2010). Subjective norms are defined as "the perceived social pressure to perform or not to perform the behavior" (Ajzen & Driver, 1991, p. 188) applied by reference groups consisting of family, friends, and business relations (Han et al., 2010; Teng et al., 2015). Han et al. (2010) found a positive and significant correlation between customers' desire for reference group acceptance and their intent to visit and recommend sustainable hotel operations.

Consumers are inclined to associate themselves with hotel operations that reflect positively on their self-esteem and are congruent with their self-image (Kang et al., 2012). Environmentally-concerned consumers seek hotel accommodations that have an enhanced environmental image that aligns with their self-image (Chen, 2015). Previous research on sustainable hotel operations has revealed consumers who are concerned with the effect of their consumption on the environment are more inclined to engage in sustainable activities (Miao & Wei, 2013; Millar et al., 2012). The extant research has focused on consumers' general willingness to stay at green hotels (Manaktola & Jauhari, 2007; Millar et al., 2012) and consumers' positive attitudes toward environmentally-friendly hotel practices (Han et al.,

2011; Han et al., 2010; Kim et al., 2012). Warren et al. (2017) explored the importance of involving the consumer in sustainable practices and the importance of communicating these efforts clearly. Involving the consumer in their experience at an eco-friendly destination through the inclusion of information about their services positively affects their self-image congruence when services align with their environmental concern (Amendah & Park, 2008). Amendah and Park (2008) argued the more involved the consumer becomes in the experience, the better he or she understands the environmental effects of his or her consumptive behavior.

Guest satisfaction is the result of a comparison between customer expectations of a product or service and the subjective evaluation of the same product and service received (Oliver, 1980). Guest satisfaction is positively affected if the hotel's green image aligns with the customer's self-image and it has been postulated that a hotel's green image positively affects word-of-mouth and repurchase intent (Han, Hsu, & Lee, 2009). Guest satisfaction with green hotels as a result of green image influences trust and positively affects loyalty formation (Martínez, 2015).

This research has significant implications for both theory and practice. The objective of the study is to empirically investigate the effects of guest involvement in sustainable hotel practices on guest satisfaction and attitudinal brand loyalty. The study uses the theory of planned behavior to examine the guests' propensity toward engaging in sustainable hotel practices and whether intrinsic or extrinsic motivations have a greater effect on guest behavior. Results of the study provided marketers supporting evidence for the further development of hotel sustainability programs and how best to orient green marketing

messages. The study contributes to the current literature on sustainable hotel practices targeting customers' post-purchase behavior.

Study Objectives

The purpose of the study was to: (a) examine guests' motivation for sustainable hotel practices from four perspectives (i.e., environmental concern, normative beliefs, self-image congruence, and hedonic beliefs); (b) explore the moderating role of involvement between sustainable hotel practices and guest satisfaction; (c) investigate the influence of guests' sustainable hotel practices on their satisfaction; and (d) assess the impact of guests' satisfaction on their attitudinal brand loyalty.

Definition of Terms

This study included the use of the following terms for the purpose of conceptualizing sustainable practices, consumer behavior, and marketing terminology:

- *Brand loyalty/attitudinal loyalty*: Brand loyalty is defined as "a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (Oliver, 1999, p. 34). Attitudinal loyalty is an antecedent of brand loyalty that involves a favorable attitude toward a specific brand or service and of the firm providing the particular brand or service relative to other firms offering the same service or product (Dick & Basu, 1994).
- *Customer/guest satisfaction*: The result of the consumers' evaluation of the congruence between the customer expectation and the actual performance of the product/service received by the same (Oliver, 1981; Oliver, 1997). Satisfaction, as

evaluated by the consumer, holds that the consumption yields an outcome that fulfills a standard of pleasure versus displeasure (Oliver, 1999).

- *Hedonic beliefs:* Motivate consumers to seek comfort or personal pleasure and to avoid inconvenience or discomfort and positively affect their mood (Lindenberg & Steg, 2007).
- *Involvement*: The personal subjective sense or unobservable state of motivation toward a product/service or consumption based on the individual's perceived needs, interest, values, and context (Zaichkowsky, 1985).
- *Normative beliefs*: The likelihood "that important referent individuals or groups approve or disapprove of performing a given behavior" (Ajzen, 1991, p. 195).
- *Sustainability*: Any process or condition that can be maintained indefinitely without interruption, weakening, or loss of valued qualities (Daily & Ehrlich, 1992).
- *Self-image congruence*: Occurs when the personal image projected by a product brand, supplier, or service aligns with the image consumers hold for themselves (Johar & Sirgy, 1991).

Summary

As summarized in this chapter, sustainable hotel practices are imperative to the financial wellbeing and successful continuation of hotel operations. The importance of involving hotel guests in sustainable hotel practices in an effort to reduce resource use and limit hotel environmental footprint was introduced. The foundation was laid for the importance of understanding the orientation of guest motivations for engaging in sustainable hotel practices (SHP) and for aligning marketing efforts with guest preferences for the same. The dissertation continues with a review of the pertinent literature, proposed hypothesis, and

the conceptual model. Following is a discussion of the methodology and study results. The dissertation concludes with the findings and the implications for both academia and industry.

CHAPTER 2. REVIEW OF LITERATURE

Introduction

This chapter contains a review of the current and pertinent literature on consumer motivation toward SHP and the consequences of consumer involvement in satisfaction and brand loyalty. The review includes literature from consumer behavior, ecopsychology, hospitality marketing, tourism management, social psychology, sustainable tourism, climate science, and organizational behavior. The conceptual model is presented in Figure 1. The model is based on the assumption that consumers are concerned about the state of the environment and are motivated to engage in SHP based on a combination of intrinsic and extrinsic factors. The model also examines the factors related to guests' willingness to participate in SHP and what effect this has on guest satisfaction and attitudinal loyalty in the context of hotels.

Theoretical Framework

The theoretical framework for this empirical investigation was based on the theory of planned behavior (TPB), which evaluates intention to perform an act based on individual preferences, social factors, volitional and non-volitional elements (Ajzen, 1991). The TPB is an expansion of the prior theory, the theory of reasoned action (TRA), devised by Fishbein and Ajzen in 1977. The TRA is used to predict individual decisions to engage in behavior based on the actor's attitudes, the social normative perceptions of significant others, and expected outcomes (Fishbein & Ajzen, 1977). The TRA posits the actors have full volitional control over their actions, whereas the TPB incorporates perceived behavioral control,

including the required resources and opportunities to perform a particular behavior (Madden, Ellen, & Ajzen, 1992).

Consumers' concern for the environment, their general acceptance of green behavior, and their attitudes toward sustainable practices are strongly correlated (Han et al., 2010). The TPB provides a suitable framework to evaluate the influence of attitudes, social norms, and perceived behavioral control on guests' willingness to engage in sustainable practices. The TPB postulates three independent antecedents of intention: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Attitude refers to a personal preference for the behavior in question on a gradient scale between unfavorable and favorable. Subjective norm denotes the consumers' perceptions of social pressure from reference groups to conform (Ajzen, 1991). Behavioral control refers to the opportunities and availability of resources to be able to achieve the intended behavior and refers to the ease or difficulty of performing the intended behavior (Ajzen, 1991).

Sustainable Hotel Practices

SHP are intended to minimize the overall environmental impact of hotel operations. SHP include saving water, increasing electrical efficiency, reducing greenhouse gas (GHG) emissions, purchasing local and eco-friendly products, and reducing solid waste (Berezan, Millar, & Raab, 2014; Graci & Kuehnel, 2011; Han, Hsu, Lee, & Sheu, 2011; Manaktola & Jauhari, 2007). Global hospitality and tourism industries, including hotels, have experienced significant growth and development in the past decade. These industries generated $7.6 trillion or 10.2% of the global economic output in 2016 with an expected annual growth rate of 3.9% for 2017, which is faster than the growth of the world economy as a whole (World Travel & Tourism Council, 2017). Despite the positive economic impact of this sustained

growth of new hotel development, the property development has resulted in many negative effects on the environment, such as an increased amount of greenhouse gases (GHG) in the Earth's atmosphere and acidification of the oceans (Mann & Gleick, 2015), continued degradation of the world's ecology and coastal areas (Han et al., 2011; Han & Hyun, 2018; Prud'homme & Raymond, 2013), and destruction of mountains and land areas because of increased construction of hospitality operations (Middleton & Hawkins, 1998). Hotel facilities are among the world's most energy-intensive buildings because of their 24-hour operations and a multitude of demanding services (Huang, Wang, & Wang, 2015). Hotels consume a disproportionately large amount of resources per guest compared to consumption observed in a home setting (Berezan et al., 2013; Han et al., 2011). Providing the expected guest services in hotels use non-renewable resources, including water for sanitation and cooking and electricity for lighting, heating and cooling, all of which generate a significant amount of GHG, carbon dioxide equivalent (CO_2e), and high levels of solid waste per guest served (Chen & Tung, 2014; Gössling, 2015; Manaktola & Jauhari, 2007; Manomaivibool, 2015; Prud'homme & Raymond, 2016). Per person consumption of water is significantly higher in a hotel setting than in private homes (Gössling, 2015). In the course of normal operations, hotels use between 100 and 207 gallons of water per day per occupied room, dependent on level of service (Gössling et al., 2012), whereas average household consumption per day is 80-100 gallons per person (Environmental Protection Agency, 2017; United States Geological Survey, 2018). A study of 58 Taiwanese luxury hotels revealed GHG per guest per night is significantly higher than in a residential setting, amounting to 29 kg of CO_2e generated per guest compared to 6.5 kg CO_2e per person in a residential setting (Huang et al., 2015). Huang et al. (2015) showed that of the total energy consumed by hotel

operations, 91.7% comes from electricity use with the remaining 8.3% from other fuel use. Proper disposal of solid waste is becoming a greater challenge, with costs rising and the capacity for disposal of waste diminishing. According to a World Bank report on solid waste, residential waste generated in Western societies is estimated at 1.2 kilos per person per day (Hoornweg & Bhada-Tata, 2012). A study in Thailand recorded visitors generate an average of 54% more solid waste per capita than local residents (Manomaivibool, 2015).

Increased pressure from stakeholders has prompted hotel practitioners to begin to consider ways to make their hotels "green" by enhancing the efficiency of the hotel operation and by reducing their environmental footprint (Berezan et al., 2013). The term *green hotel* was defined by the Green Hotels Association (2017) as hotel operations that are environmentally friendly, with managers who establish programs that save water, conserve energy, and reduce solid waste with the goal of saving money and protecting the Earth (Green Hotels Association, 2017). When green practices were first introduced in the lodging industry in the 1990s, many hotel programs focused on complying with government regulations by reducing waste and energy usage (Lee et al., 2010). Now, hotels are even more driven by consumer demand than they are by regulators (Berezan et al., 2013). Increasing customer awareness of the environmental impact of hotel operations has amplified the demand for green hotel services and sustainable practices (Prud'homme & Raymond, 2016). This suggests guests' positive attitudes toward hotels' participation in sustainable practices may have a significant positive impact on satisfaction and loyalty formation (Han et al., 2010; Millar & Baloglu, 2012; Prud'homme & Raymond, 2016).

Environmental Concern

Public concern for the state of the environment is on the rise. The year 2016 was the warmest since 1880 when record-keeping began, (National Aeronautics and Space Administration, 2018). The Intergovernmental Panel on Climate Change opined that human-caused climate change is posing an increasing danger to the viability of life on Earth with the emission of GHGs causing "dangerous anthropogenic interference with the climate system" (O'Neill et al., 2017, p. 28). Measurements of GHG were reported at a record high carbon dioxide (CO_2) level, reaching 407.62 ppm in December 2017 and providing clear evidence for a warming climate (NASA, 2018; O'Neill et al., 2017). The National Oceanic Atmospheric Administration (NOAA) reported 2017 climate-related disasters in the U.S. were the costliest on record amounting to $306 billion for the year (NOAA, 2018). Droughts and water security have affected places around the world including the Southwest U.S., triggering mandatory water conservation (NOAA, 2018). Cape Town, South Africa, which has similarly suffered a drought, is forecasted to run out of water in April 2018, a first for a major metropolitan city (Harding, 2018).

Environmental concern about the depletion of a common resource shared by all humankind first appeared in the writing of Victorian economist Malthus in 1798. Malthus (1798) warned that the effects of exponential population increase could not be tolerated by the Earth's finite environment. To highlight the perilous path of human consumption of resources, Hardin (2009) further indicated the natural sciences could not provide any technical solution for the degradation of the environment as the result of careless human consumption of the Earth's resources. Many environmentalists suggest humans cannot rely on technology to mitigate the deleterious effects of their consumption on the environment;

instead, they should undergo behavioral changes such as green buying and sustainable practices (Han & Hyun, 2018; Gössling et al., 2012; Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997; Scott et al., 2008).

The social foundation of environmental concerns was explored in a study by Van Liere and Dunlap (1980). They indicated environmental concerns are varied over a spectrum of social demographic variables, including age, sex, income, education, occupation prestige, residency, and political affiliation. They further argued younger populations are more concerned about the environment than older generations (Van Liere & Dunlap, 1980). In the 1990s, environmental concern grew across all demographic classifications and government spending on environmental programs increased across the political spectrum (Mainieri et al., 1997). Public membership in environmental organizations such as the Sierra Club and the Environmental Defense Fund grew over the same time, respectively doubling and tripling in numbers (Mainieri et al., 1997). The results of consumer surveys conducted both domestically and internationally reveal a high proportion of respondents list environmental concerns as one of the primary social problems faced by humans (Kotler & Armstrong, 2010; Prud'homme & Raymond, 2016; Schultz, 2001). Positive attitude toward a particular behavior is considered a strong predisposition toward action; therefore, by modeling green behavior through sustainable practices, hotels may support attitudes that encourage positive environmental behavior (Ajzen, 1991; Bandura, 1986). Based on the preceding discussion the following hypothesis was proposed:

H1: Environmental concerns positively motivate consumers to engage in sustainable hotel practices.

Normative Beliefs

Normative beliefs describe the likelihood "that important referent individuals or groups approve or disapprove of performing a given behavior" (Ajzen, 1991, p. 195). Huesmann and Guerra (1997) defined normative behavior as "individualistic cognitive standards about the acceptability of a behavior" (Huesmann & Guerra, 1997, p. 409). Normative beliefs may play a role in modifying unacceptable behavior and may affect the level of emotional reaction to the behaviors of others, as well as provide ethical rules or standards that relate to individuals' beliefs about the acceptability of a behavior (Huesmann & Guerra, 1997). Awareness of sustainability social norms has a positive effect on those who become cognizant of the practices and encourages them to engage in environmentally-friendly practices (Schultz, Khazian, & Zaleski, 2008). A significant increase in participation in SHP is noted when guests are informed of the sustainable practices other guests have engaged in during their stay (Baca-Motes et al., 2013). Customers' normative motives for sustainable purchases have been discussed in multiple disciplines including ecopsychology and eco-literacy. Ecopsychology explores the connection between humans and the environment in the social context, which promotes prudent behavior toward ecology and planetary health (Roszak, Gomes, & Kanner, 1995). Most customers make rational choices when evaluating and purchasing environmentally-friendly products or services; they are seeking information that will allow them to be fully aware of environmental concerns to make a well-informed choice aligned with their intention to care for the planet (Cheah & Phau, 2011). Eco-literacy promotes educating the customer on the "well-being of the Earth," by building knowledge about a sustainable human society through the application of practices that support living in harmony with natural systems (Laroche, Bergeron, &

Barbaro-Forleo, 2001). Eco-literacy and normative beliefs are viewed as the motivators for consumers to participate in meaningful, sustainable practices (Han et al., 2010; Laroche et al., 2001). Another study in the context of ecopsychology showed awareness of pollution made consumers feel socially responsible to engage in "green" behavior such as staying in a green guestroom or eating local organic food (Han et al., 2010).

Consumers' concerns about the environment show their positive attitude toward green practices, which strengthens their intention to contribute to a sustainable ecosystem (Millar et al., 2012). This is consistent with the findings of previous studies that have demonstrated environmental consciousness drives people to select green hotels (Barber, 2014; Kim & Choi, 2005; Laroche et al., 2001; Manaktola & Jauhari, 2007). Consumers' positive attitudes toward staying in green hotels create an opportunity for hotel practitioners to develop a competitive advantage by adopting sustainable practices and communicating their efforts (Kim et al., 2012; Laroche et al., 2001; Lee et al., 2010).

Normative beliefs or subjective norms in the TPB model are noted as the second determinant of behavioral intent. A subjective norm describes how an action would be perceived by family, friends, and reference groups close to the individual, who would influence the individual's decision-making (Han et al., 2010). Normative beliefs are a significant reassurance through social pressure that consumers will comply with rules or policies (Han et al., 2010). Human behavior is predicated on the acceptance and attitudes of others. Sustainable practices are influenced more by what significant others think than by government regulation or public campaigns. Individual desire to conform to norms is a powerful predictor of a person's propensity for sustainable practices (Goldsmith & Goldsmith, 2011). Based on the discussions above the following hypothesis was proposed:

H2: Normative beliefs positively motivate consumers to engage in sustainable hotel practices.

Self-image Congruence

Most scholars agree on the general definition of self-image/self-concept, namely, the entirety of thoughts and feelings an individual has in reference to himself or herself as an entity (Sirgy, 1982). Self-image is constructed as individuals use reference groups consisting of others as a source of information for arriving at and appraising one's beliefs about the world with particular attention to others who share beliefs and are similar in other aspects (Escalas & Bettman, 2003). Self-image is multi-dimensional (Sirgy, 1982), and includes four aspects: actual self-image, social self-image, ideal self-image, and ideal social self-image. *Actual self-image* is defined as how the individual sees himself or herself, as opposed to *social self-image,* which refers to how others see him or her. As an example, one may perceive himself or herself as hip and cool, whereas others may perceive him or her as only moderately cool and passé. *Ideal self-image* can be defined as how a person would like to see himself or herself, whereas the *ideal social self-image* is how a person would like others in his or her reference group to perceive him or her. A customer's desire to enhance his or her ideal social self-image by purchasing a particular product, service, or brand is termed *self-enhancement* (Escalas & Bettman, 2003; Torelli, Özsomer, Carvalho, Keh, & Maehle, 2012). When an attainable gap exists between ideal self and actual self, the individual customer is motivated to reach an ideal state through his or her purchase (Hong & Zinkhan, 1995). Customers are encouraged to enhance their own self-image by associating their self-identities with an organization's image (Kang et al., 2012).

The concept of self-image congruence describes an alignment that exists when the image projected by a product, service, or supplier matches the image a consumer holds for himself or herself (Kressmann et al., 2006). This alignment between brand image and consumers' self-concept is also known as self-congruity (Johar & Sirgy, 1991; Sirgy, 1982). A condition of conspicuity must exist for the personality association to be formed between the product and consumer (Sirgy, 1982). The greater the similarity between product or service identity perception and consumer self-perception, the better the sense of self-congruence. This alignment enhances the consumer's positive attitude toward the product or service (Johar & Sirgy, 1991). When a brand's image or personality is found to be similar to that of a consumer's self-image the basis for the customer-brand relationship is formed (Aaker, 1996).

Consumers engage in services and align their consumption to affirm their self-concept and to construct their own identity (Escalas & Bettman, 2003). The purchase of services is an involved action, engaging purveyor, and customer in an inseparable act of co-creation of value with the customers as "active participants in relational exchange and coproduction" (Vargo & Lusch, 2004, p. 7). Intangible hotel services, which rely on the personal involvement of guests, may further enhance the congruence between customers' own self-image and hotel brand image in the purchasing and repurchasing processes (Back, 2005). Chon (1992) also suggested visitors who perceive a low discrepancy between ideal self-image and the image of a destination or hotel are more satisfied with their travel experience.

Self-congruence affects guests' attitudes and behaviors toward service brands based on how well the "personality" of the brand aligns with how the customers see themselves

(Kressmann et al., 2006). An experiment conducted by Baca-Motes et al. (2013) informed hotel guests of positive, sustainable practices of previous guests in the same room. This information positively influenced their attitude and encouraged sustainable behavior resulting in a 9-12% increase in the rate of guests reusing towels (Baca-Motes et al., 2013).

The greater the match between customers' self-concept and perceived image of the destination/resort, the more favorable the customers' attitude toward the destination, thus, increased likelihood of re-visitation (Sirgy & Su, 2000). A customer's environmentally-concerned self-concept based on a sense of moral obligation leads a customer to engage in sustainable practices (Aguirre-Rodriguez, Bosnjak, & Sirgy, 2012), and to seek products and services that are environmentally friendly (Baca-Motes et al., 2013). In light of the preceding discussion the following hypothesis was proposed:

H3: Consumers' self-image congruence toward environmental practices positively affect their behavior toward engaging in sustainable hotel practices.

Hedonic Beliefs

Hedonic beliefs drive a consumer to seek pleasure or personal comfort and to avoid inconvenience or pain (Lindenberg & Steg, 2007). Persons motivated by hedonism are especially sensitive to what raises and what reduces their feeling of pleasure and affects their mood (Lindenberg & Steg, 2007). Miao and Wei (2013) argued consumers with a hedonic bent may be less likely to reuse linens or take shorter showers, thus, shun pro-environmental behavior if they do not derive any pleasure from it.

Hotels use loyalty programs to reward guests for their patronage and encourage return visits. Hotel brand loyalty programs have become the primary means of building loyalty by rewarding frequent guests with points toward upgrades and complimentary future hotel stays,

thereby strengthening long-term relationships (Berezan et al., 2015). Some hotel operators also use loyalty program points to encourage or reward guests for participating in SHP, which the guest can use to pay for a future stay or discounts on hotel services (Manaktola & Jauhari, 2007). Hotel companies employ the rewards programs to build retention among loyal customers with a tiered system that increases the reward benefits at each tier, thereby promoting fidelity to a particular hotel company (Tanford & Malek, 2015).

Studies have been inconclusive with respect to hedonic rewards and their effectiveness in motivating guests to participate in SHP. One recent study posited guests reject cash discounts or vouchers for their customary habits of using fresh towels or disposable toiletries, citing a lack of authentic commitment on the part of the hotel. The study claimed guests thought the hotel was only motivated by a desire to save money, and therefore, was hypocritical (Huang, Lin, Lai, & Lin, 2014). Huang et al. (2014) argued when environmentally conscientious guests are offered extrinsic cash motivation for SHP, it can diminish their intrinsic motivations. Furthermore, other research suggests the hedonic motivations of hotel guests surpass their concerns for how the product or service impacts the environment (Barber, 2014).

Conversely, a Scottish study revealed over 70% of those surveyed thought they should be rewarded with frequency points for transacting with “green” hotels (Tzschentke, Kirk, & Lynch, 2004). Ogbeide (2012) found half of the respondents in a survey of American hotel guests, asked if they should be rewarded for staying in a green hotel, responded positively, stating loyalty points or a discount were the preferred rewards for the support of green practices.

Based on the literature referenced above the following hypothesis was proposed:

H4: Hedonic rewards motivate guests to engage in sustainable hotel practices.

Customer/Guest Satisfaction

Customer satisfaction results from a customer's evaluation of congruence between his or her expectation and the actual performance of the product or service received (Oliver, 1981; Weaver & Brickman, 1974). Oliver (1997) reasoned the attitude or expectation an individual has for a service encounter is primarily based on one of three things: prior experience, marketing messages, or word-of-mouth communication. Satisfaction, from a customer's perspective, holds that consumption will yield an outcome that fulfills a standard of pleasure or displeasure (Oliver, 1999). Customer satisfaction is one of the strongest predictors of a repeat purchase, word-of-mouth recommendations, and brand loyalty (Lin & Wang, 2006). Oliver, Rust, and Varki, (1997) found that an elevated level of customer satisfaction brought on arousal, which positively affected the customers' mood, leading to a heightened experience known as a "delight sequence." This is an elevation in satisfaction that brings on a feeling of delight, and is postulated to bring on higher levels of satisfaction and intensified results in terms of elevated loyalty (Oliver et al., 1997). Satisfied customers are more loyal, less price sensitive, indifferent to competitive efforts, and purchase with greater frequency, thus, enhancing the profitability of the operation (Anderson, Fornell, & Lehmann, 1994; Oliver et al., 1997; Ravald & Grönroos, 1996). The cumulative financial value of a satisfied, repeat loyal customer has the potential to be quite high (Anderson et al., 1994).

Increasing consumer concern about the environment is reasoned to be an antecedent to customer satisfaction with the purchase of eco-friendly or green hotel services (Amendah & Park, 2008). Consumers' heightened environmental concerns also increase expectations for SHP (Manaktola & Jauhari, 2007), which if confirmed, will lead to satisfaction

(Amendah & Park, 2008; Prud'homme & Raymond, 2013). Oliver's theory of expectancy and disconfirmation has been a widely accepted approach for evaluating customer satisfaction. It denotes satisfaction is evaluated through a mental comparison of elements of customer service received, including pre-purchase expectation, disconfirmation, perceived performance, and ultimately satisfaction. Expectation-disconfirmation is described as a bivariate process where first the consumer forms a cognitive image of expectation and then confirms or disconfirms the expectation with a comparison of the actual outcome versus the expectation (Oliver, 1980; Oliver, Balakrishnan, & Barry, 1994). The later subjective comparison of the positive/negative outcome of expectation or disconfirmation is considered to be a primary determinant of satisfaction or dissatisfaction (Oliver, 1980; Oliver et al., 1994). Expectations form the scaffolding, or frame of reference, from which the consumer draws comparisons and judges service received (Oliver, 1980). Quality service that confirms the customer's expectation is an important antecedent to customer satisfaction, which leads to positive behavioral intent (Cronin, Brady, & Hult, 2000; Zeithaml, Berry, & Parasuraman, 1996). Therefore, the following hypothesis was proposed:

> H5: Consumer participation in sustainable hotel practices has a positive impact on their satisfaction with a hotel stay.

Attitudinal Brand Loyalty

Brand loyalty is manifested in a strong commitment to a brand by loyal customers who promote firm and shareholder value (Raimondo, Miceli, & Costabile, 2008). Brand loyalty has been defined as "a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the

potential to cause switching behavior" (Oliver, 1999, p. 34). Customer satisfaction has been recognized as a significant antecedent to loyalty in consumer marketing literature. Customer satisfaction with a prior product or service is likely to play an important role in establishing positive attitudes toward the brand and determining future purchase (Dick & Basu, 1994; Lee et al., 2010; Russell-Bennett, McColl-Kennedy, & Coote, 2007). Loyalty is commonly categorized along two dimensions: attitudinal and behavioral loyalty. Attitudinal loyalty consists of commitment and trust, which are well-documented variables in relationship marketing for hotels, whereas behavioral loyalty includes actual intent to visit or spread positive word-of-mouth about the brand (Dick & Basu, 1994; Tanford & Malek, 2015; Zeithaml et al., 1996). Brand loyalty was further analyzed by Dick and Basu (1994), who compared the dimensions of attitudinal loyalty and behavioral loyalty. Their analysis defined attitudinal loyalty as a favorable attitude toward a firm relative to other firms offering the same product or service and behavioral loyalty as repeated buying behavior (Dick & Basu, 1994). Providing opportunities for customers to take an active part in brand experience has proven to further strengthen loyalty (Hochgraefe, Faulk, & Vieregge, 2012). Enduring customer loyalty is primarily caused by maintaining a high level of customer satisfaction (Deng, Lu, Wei, & Zhang, 2010). Deng et al. (2010) argued loyal customers hold a greater trust in a particular brand than other similar brands, perceive the brand to be more reliable, and generate a more favorable effect when using the particular brand. Loyal customers are less susceptible to negative information about products or services, and more tolerant when service shortfalls are experienced (Deng et al., 2010). Customers who are loyal toward a specific brand may be willing to pay a premium for a specific brand since unique benefits can be derived from that brand and no others (Chaudhuri & Holbrook, 2001; Jacoby & Chestnut,

1978). This uniqueness may be derived from a "greater trust in the reliability of a particular brand or from a greater effect when customers use a particular brand" (Chaudhuri & Holbrook, 2001, p. 81).

An increased number of loyal customers leads to an increase in market share of the brand when repeated purchases are made regardless of competitive constraints in the marketplace (Chaudhuri & Holbrook, 2001). Thus, greater customer loyalty is expected to result in favorable outcomes, such as insulating the brand from competitive pricing, discouraging customers' desires to comparative shop, generating more market share, and creating greater profitability potential. Numerous empirical studies have revealed retaining a loyal customer base is increasingly important in a dynamic and highly competitive global lodging market with mounting pressure from intermediaries, expansion of brand offerings, and exploration of niche markets (Chaudhuri & Holbrook, 2001; Kang, Tang, & Lee, 2015; Oliver, 1999). Customer loyalty is the ultimate objective of satisfaction metrics and a key determinant of long-term company viability (Deng et al., 2010).

Oliver (1999) argued customer loyalty is developed in phases; first, a customer becomes loyal in a cognitive sense; second, in an affective sense; third, in a conative manner, and last in a behavioral manner, commonly evidenced by "action inertia," wherein the customer remains loyal to the product or service as a path of least resistance. Once action inertia takes hold, the efforts of other brands to attract the customer are deflected. The four stages of loyalty are explained in greater detail below.

Cognitive loyalty occurs during the information gathering phase when the consumer reviews brand-related information and indicates one brand is preferred over alternatives.

Cognitive loyalty is shallow in nature; thus, it could result in processed satisfaction by the consumer, becoming part of the experience, and activating affective tinges.

Affective loyalty occurs during the second stage where the customer develops a liking or a sentiment toward the brand based on a culmination of satisfactory experiences with the brand. The pleasurable fulfillment of needs causes a commitment in the mind of the consumer, which is not easily removed but not completely impervious to switching.

Conative loyalty involves behavioral intentions as a result of repeated incidences of positive affect for the brand. Conation infers a brand-specific vow to repurchase. This stage translates into the customer's intention to re-buy the brand.

Action loyalty is where intentions are transformed into actions. The previous loyalty stages are preludes to a state of readiness to act. At this stage, the customer acts with additional determination to overcome obstacles to purchase and repurchase (Oliver, 1999). In his discussion of action loyalty, Oliver (1999) highlighted obstacles to loyalty such as *consumer idiosyncrasies* and *switching incentives*. Consumers interested in variety or susceptible to persuasive messages from competitors may be averse to loyalty formation.

Attitudinal loyalty moves consumers to offer positive recommendations, pay a premium price, and intention to purchase or switch brands; the green overall image of a hotel may positively affect consumers' attitude toward a brand (Lee et al., 2010; Zeithaml et al., 1996). Based on the preceding discussion the following hypothesis was proposed:

H6. Guest satisfaction with SHP has a positive impact on attitudinal loyalty toward hotel brands.

Involvement (Moderator)

Involvement is defined as the personal subjective sense or unobservable state of motivation toward a product or experience based on the consumers' perceived needs, interests, values, and context (Hochgraefe et al., 2012; Mittal & Lee, 1989; Olsen, 2007; Zaichkowsky, 1985). Products and services hold different meanings for different consumers, which form differing attachments both in intensity and nature (O'Cass, 2000). Theories of consumer involvement assume consumers are intelligent, rational, problem-solving beings who gather and store information to make reasoned, informed decisions about their consumption (Ajzen, 1991; Lam & Hsu, 2006). Not all purchase decisions involve data gathering and analysis of the choice alternatives, even for major purchases (Zaichkowsky, 1985). This has led researchers to view consumers' involvement behavior as either "low involvement" or "high involvement" (Zaichkowsky, 1985).

The consumer's level of involvement is assumed to change in step with changes in the consumer's beliefs and preferences and as a result of changes in the interaction with stimuli or the dynamic environment (O'Cass, 2000). Involvement in service dominant-logic, defined as an inseparable relationship between a customer and a provider of the experience, is strongly linked to repurchase intent, levels of loyalty (Hochgraefe et al., 2012; Quester & Lin Lim, 2003), information search, as well as a barometer of willingness to pay more (Amendah & Park, 2008). Visitors who are interested in the protection of the environment and green practices have a positive attitude toward involvement in their destination consistent with their beliefs (Amendah & Park, 2008; Millar et al., 2012). Guests who are highly involved in environmentally-friendly practices at home place greater importance on being involved in sustainable practices when staying in hotels (Millar et al., 2012). Consumers who

seek involvement gather information about hotels and judge the credibility of the information messages to make sound eco-friendly purchases (Amendah & Park, 2008; O'Cass, 2000).

Hochgraefe et al., (2012) suggested the core tenets of involvement are *purchase* and *product* involvement. Product involvement is noted as an antecedent to involvement along with importance/interest, hedonic value, sign value, and brand risk (Mittal & Lee, 1989). Product importance/interest is evaluated by the utilitarian value it holds to the consumer in meeting his or her needs. Hedonic value is concerned with the amount of pleasure the consumer can expect to derive from the product or service and brand risk refers to the opportunity cost of buying one brand over another (Mittal & Lee, 1989). Involvement with a product or brand offers the consumers sign value, which helps a person express himself or herself and show who the user believes he or she is like (Mittal & Lee, 1989).

Customer involvement is an important ingredient in loyalty generation. Customers' agency over their choices and trust in the service provider as components of involvement are strongly correlated to customer satisfaction during the service encounter (Russell-Bennett et al., 2007; Singh & Sirdeshmukh, 2000). As involvement with the service or product increases, customers are more likely to search for information about the product, and attitudes toward the product or service are likely to become more stable constructs and may serve as the basis for the formation of brand attitude (Suh & Youjae, 2006). In light of the previous discussion, the following hypotheses were proposed:

H7: The interaction effect of participant involvement in SHP will positively impact guest satisfaction.

Summary

This study proposed consumers' concerns about the environment affect their purchasing behavior. Hotel customers are driven either by innate factors or external rewards or by a combination of the two, to participate in SHP. Hotel practitioners who develop sustainability programs are more effective if the orientation of the customer's motivation and the level of desired guest involvement are known. Aligning the reward with the specific guest motivation increases guest satisfaction and strengthens guest loyalty toward a hotel brand.

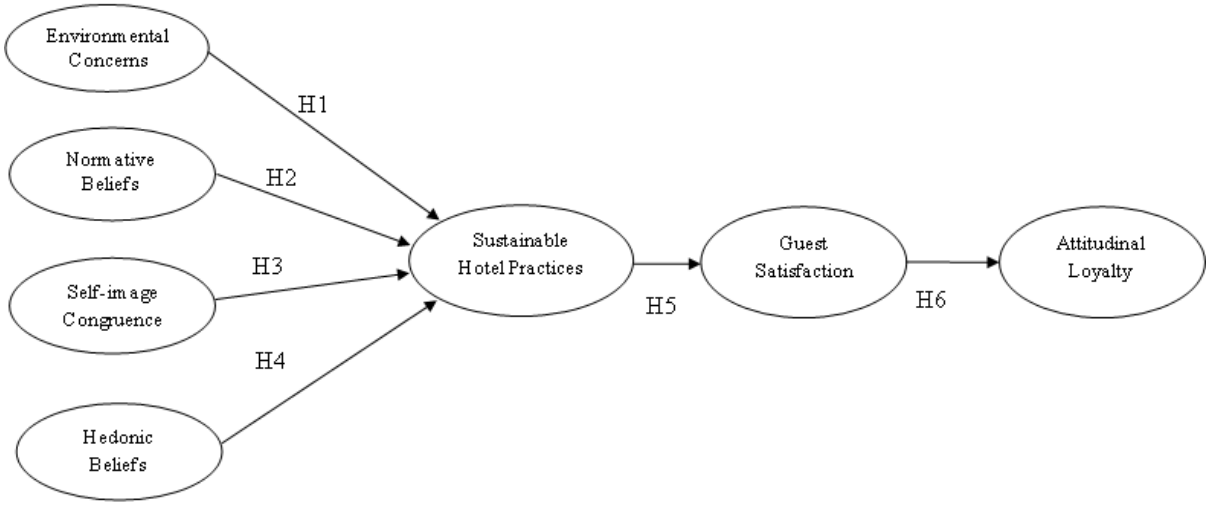

Figure 1. Proposed conceptual model.

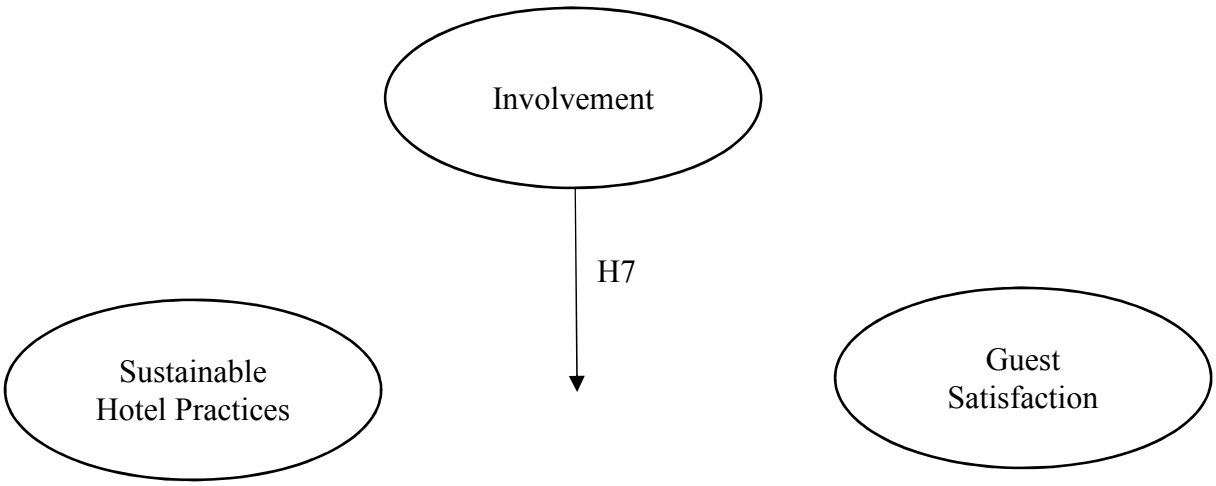

Figure 2. Moderating effect of involvement.

CHAPTER 3. RESEARCH DESIGN AND METHODOLOGY

Following are the relevant details of the research methods utilized to gather data and test the hypotheses presented in the preceding chapter. This discussion includes the research design, size, and source of the sampling plan. The survey instrument and modes of statistical analysis are detailed as well as the data collection procedures. A description of the structural equation model is included in the discussion.

Sample

The sample for the study was comprised of persons who had stayed in a hotel and engaged in SHP at least once in the last six months. Following approval from the Institutional Review Board of Iowa State University (Appendix B), an online survey was developed to be distributed to potential respondents, both male and female. The online survey company Qualtrics was used for data collection. The survey was distributed to a panel of respondents who were rewarded with incentives in the form of payment or discount vouchers. A total of 1,839 panel members were invited to participate in the survey. A total number of 589 surveys were collected. After a careful review of the responses, 75 responses were deleted because participants had entered more than one response to a single question making the response unusable. The questionnaire was subsequently restricted to allow only a single response to each question. The final count of usable responses was 514. The response rate was 27.9%. Screening included tracking of respondent's response time, response pattern, and other metadata to determine the validity of responses. Response time was set at a minimum of 240 seconds to ensure respondents took a minimum amount of time required to respond carefully. Raw results were delivered in Excel format, annotated with age range, gender, and by state.

The advantages of using online surveys include their low cost, fast response time, and wide geographical scope to reach busy professionals effectively (Hung & Law, 2011).

Research Design

A quantitative approach was utilized to evaluate the correlation of consumers' environmental concerns and their motivations (i.e., intrinsic and extrinsic) toward SHP, the moderating effect of involving guests in SHP, and the subsequent effect on guest satisfaction and attitudinal brand loyalty. A collection of quantitative data with the use of a survey methodology was required to perform an analysis using structural equation modeling (SEM). A survey questionnaire enabled a controlled method to gather data on the same variable from every subject in the study required for the use of SEM analysis. Data gathering through survey research enabled the measurement of latent constructs or variables that could not be directly observed (McCoach, Gable, & Madura, 2013), such as environmental concern, self-image congruence, normative motives, satisfaction, and loyalty. Recent literature and earlier qualitative studies were used as a basis to develop the survey instrument.

Sampling Plan and Sample Size

The age range of the sample included adults 18 years or older. In addition, survey participants were required to have booked a hotel with sustainable practices and stayed at least one night in a hotel in the previous six months. The types of hotels were not limited by the level of service and included all brands and all locations within the United States. The sampling was conducted using the online data collection agency, Qualtrics. Qualtrics is a consumer research company with access to segmented populations based on specific queries, sufficiently large to be representative of the population. Online data collection, conducted with more advanced survey designs, enabled the collection of the required sample size for

SEM analysis. This method was selected because it has been shown that online data collection greatly reduces costs and increases precision (Babin & Zikmund, 2015). In addition, using an online survey can greatly reduce interviewer bias, structure the order of questions displayed, and force completion (Wright, 2005). Online surveys also reduce human error, thereby reducing the potential for random errors (Evans & Mathur, 2005). The use of online instruments enables respondents to take time to evaluate and respond without time pressure and to answer the survey privately and confidentially at a time convenient for them.

Sample Size

SEM is a method requiring a large sample. Standard errors and random errors have a diminishing effect on a larger sample. SEM requires a large sample size to reliably normalize the distribution of the studied variables. The more complex the model and the higher the number of the parameters being estimated, the larger the sample size needs to be to reliably detect differences (Kline, 2010). Although it has been argued that the more factors a particular model has, the more cases are needed for statistical reliability, there are other items to consider as well. Factor loading is a consideration when evaluating the reliability and sample size; the higher the factor loading, correspondingly diminishes the requirement for a high number of cases (Wolf, Harrington, Clark, & Miller, 2013). Another consideration, according to Wolf et al. (2013), was “we found that sample size requirements actually decreased when the number of indicators of a factor increased” (Wolf et al., 2013, p. 924). Based on prior work of relevant literature and advising faculty suggestions, a sample size of approximately 450 was deemed appropriate for the final study.

Survey Instrument

The survey consisted of five sections: (1) hotel brand and location; (2) guests' motivations to engage in SHP; (3) preference for SHP; (4) guest attitude and behavior toward engaging in SHP; (5) and demographic information. Prior to commencing the survey, potential participants were asked if they had made choices in hotels that included SHP in the last six months. Those who had not selected and stayed at such a hotel were asked to terminate the survey.

The first part of the survey included a definition of SHP or "green hotels." Before participants began the survey, they were asked to identify a hotel brand and location where they had stayed in the last six months. A list of 34 of the most common hotel brands was offered from which participants made a single selection. An open-ended question was provided for those who had stayed at a different property not listed. The second part of the survey measured the four variables that motivate engagement in SHP. The endogenous motivating variables are environmental concern, normative beliefs, self-image congruence, and hedonic beliefs. To measure attitudinal variables, the researcher must quantify postulated attributes that are unobservable, and these attributes are termed latent variables, constructs or factors (McCoach et al., 2013). The latent variables are presumed to cause the subject's responses to the observed variable or indicator that must be assigned a numerical scaling system. In this study, the scaling system chosen to quantify the response to the latent constructs was the Likert scale. The Likert scale uses a seven-point scale ranging from one *(strongly disagree)* to seven *(strongly agree) w*ith four noted as *(neutral)* to demarcate the middle between the two ends of the scale. The assigned integers represent a gradient of the emotion or attitude experienced by the survey respondent.

Factors and Indicators

According to McCoach et al. (2013), there are three vital components to a suitable factor. First, the proper name that describes the factor must be stated. Second, the name must be justified by merging actual items or content into the description. Third, the perception or attitudes must be described both for high and for low scoring on the factor. To evaluate participants' environmental concerns, indicator variables were adopted from Kim and Choi (2005) to enumerate the extent of guests' concerns about human consumption of Earth's resources. Questions were designed to assess concern with the environmental impact of hotel operations. Concern for the environment was assessed with five phrases: "future of the world's environment," "human abuse of the environment," "harmful human interference with nature," "the delicate nature balance," and "human dependence on natural systems."

Next, normative beliefs were measured with three items adopted from Han et al. (2010): "my family thinks I should stay at a green hotel," "my friends think I should stay at a green hotel," and "my colleagues think I should stay at a green hotel." The four items employed to investigate the effects of self-image congruence were adopted from Sirgy and Su (2000): "this hotel is consistent with how I see myself" to ascertain *actual self-image*, "this hotel is consistent with how I like to see myself" to assess *ideal self-image*, "this hotel is consistent with how I believe others see me" measuring *social self-image*, and "this hotel is consistent with how I would like others to see me" to measure *ideal social self-image*. Hedonic beliefs about SHP were adopted from Miao and Wei (2013): "my own comfort is more important to me," "it takes more effort than it is worth," "my lifestyle (the quality of my hotel experience) would change for the worse" and "because of daily hassles (during my travel), I often forget such things."

The third section of the survey evaluated guests' attitudes toward SHP, the central variable in the study. This variable was measured by adopting a scale from Berezan et al. (2013). These items included an examination of guests' willingness to participate in SHP with the following criteria: "my stay is enhanced with participation in sustainable hotel practices," "my stay is enhanced by the use of energy saving light bulbs," "my stay is enhanced with the use of occupancy sensor or key-cards needed for room power," "my stay is enhanced with amenity dispenser in guest rooms," "my stay is enhanced with towel and bed linen re-use programs," and "my stay is enhanced with the hotel use of local environmentally-friendly products and services."

Section four examined attitude and behavior toward SHP. Guest satisfaction was measured with indicators appropriated from Cronin et al. (2000), including "my choice to stay at this hotel was a wise one," "I think that I did the right thing when I purchased this stay," and "this facility was exactly what I wanted for this stay."

Attitudinal loyalty denoted a positive attitude toward a brand or an operator comparable to others offering the same service, and was measured by the following aligned statements adopted from Zeithaml et al. (1996): "I would say positive things about this brand," "I would recommend this brand to someone who seeks my advice," "I would encourage friends and relatives to do business with this brand," "I would consider this brand my first choice to buy services," and "I would do more business with this brand in the next few years."

Guest involvement (moderator) was measured with indicators adopted from Skogland and Siguaw (2004). The three indicators used to evaluate the "involvement" latent construct included "staying in my chosen hotel is something that is very important to me," "I would

rather stick with a brand that I know than try something that I am not very sure of," and "the hotel I stay at says a lot about who I am."

The fifth part of the survey elicited demographic information such as gender, age, level of education, and household income. Other questions in the last part of the survey included the number of overnight stays in hotels in the last year; hotel selection attributes including price, location, image and; last, the preferred approach of booking the hotel stay.

Data Collection

The data were collected between February 5, 2018, and February 9, 2018. Participants were recruited from a panel of respondents, identified by the online marketing research firm, Qualtrics. A total of 514 responses were collected over 4 days. The respondents were drawn from a general sampling of consumers in the United States and randomly selected to receive an email invitation to participate in the survey. The respondents received an incentive to participate in the survey based on the length of the survey. According to Qualtrics, the financial incentive varies and may include cash, airline miles, gift cards or other types of redeemable points. Qualtrics was provided with screening criteria to include in the sample, as noted at the beginning of this section. Qualtrics qualifies all panelists through internal feedback surveys and metadata analysis to ensure high-quality panels with an acceptable response rate.

Data Analysis

For the data analysis process, descriptive statistics, including percentages and frequencies, were used for demographic data. Preference for hotel booking method and selection criterion were also evaluated using percentages. The mean values per item were calculated.

Structural Equation Modeling

SEM was used to assess the model for the study. The SEM method uses both factor analysis and regression analysis to evaluate correlations among the variables in the research model. When measuring unobservable feelings and attitudes, the researcher must rely on an instrument using self-reported scales. SEM provides a framework that can determine subjects' feelings and attitudes and is devised to capture data for statistical analysis (McCoach et al., 2013). SEM is a method that requires a large sample to overcome inherent errors and variability in responses. Standard errors and random errors have a diminishing effect on a larger sample (Kline, 2010).

Correlation, both partial and part, concerns the relationship between two or more variables. In the proposed study for the guest involvement in SHP, the correlation between the study variables differed. It was assumed that the correlation between environmental concern and SHP was significant, but the two were also related to satisfaction, a third variable. When the observed variables in a study are continuous, Pearson's correlation coefficient are used to analyze the covariance or dependence between two variables. Pearson's correlation is obtained by dividing the covariance of the two variables by the product of their standard deviations. Other bivariate correlations include point-biserial correlations focusing on a dichotomous variable and a continuous one, phi-coefficient used to measure two dichotomous variables, and Spearman's rank for two ranked variables.

Confirmatory factor analysis (CFA) is used in SEM to confirm prior measurement models. The CFA tests whether a construct is consistent with the proposed uses in a particular case and analyzes whether the available data fit a hypothesized model. CFA can be used to test a variety of hypotheses concerning measurement. Factors within a model can be

examined separately from the model in which they are nested, and each factor and indicator can be tested separately. It has been noted the best approach to dealing with problems that may arise with statistical models is substantive knowledge of the researcher, which is more important than relying on statistical considerations alone (Kline, 2010).

Reliability

Reliability refers to the extent to which an experiment or measuring procedure consistently produces the same results over repeated trials (Carmines & Zeller, 1979). The most basic approach used to evaluate the properties of an empirical measurement is to examine the reliability of the indicators themselves. Reliability refers to the consistency of the outcome when using the same measuring procedures over multiple experiments. All phenomena in scientific research are subject to a certain amount of chance error. Even when the same population is measured on different occasions, the outcome is not exactly the same. However, repeated measurements of the same phenomenon will result in only slightly different outcomes; they do not tend to vary widely from measurement to measurement. This tendency toward consistency in measurement with repeated experiments of the same phenomenon constitutes reliability. The greater the consistency of the results from a repeated measurement, the greater the reliability. In addition to reliability, indicators used to measure phenomena must also be valid.

Validity

Validity refers to how well the indicator measures what it is intended to measure. Valid measures enable the researcher to evaluate to what extent the indicators used to measure guest satisfaction do, in fact, represent the concept of satisfaction. For example, meeting guest expectations with service provided is generally accepted as a valid indicator of

guest satisfaction (Oliver, 1981), but may not be valid, in a strict sense, of whether guests are willing to pay more for the same service. Both reliability and validity are a matter of a degree, and if a measurement is reliable, it is not necessarily valid. In other words, a measurement that is consistent but wrong may be reliably so, thus, not a valid measure.

Summary

This chapter discussed the research methodology for the study. The study drew from several disciplines, which required the adaptation of methods for the purpose of the research process. The results of the application of these methods are discussed in the next chapter.

CHAPTER 4. ANALYSIS AND RESULTS

This chapter details the analysis of the data collected and the results of this study. First, the demographic characteristics of the sample and descriptive statistics of the variables are discussed. Then the validity and reliability issues are detailed as well as the results of the SEM. The moderating effect is discussed in closing.

Demographic Characteristics

A total of 589 survey responses were collected. An initial pilot test was conducted to collect 98 responses to verify the instrument against response biases. After analyzing the pattern of timing of the pilot responses, the minimum time for valid responses was adjusted to 240 seconds based on the minimum time required to read and respond to the survey questions. The average duration of valid surveys was 303.3 seconds with the mode coming in at 280 seconds, 40 seconds above the set minimum time limit. The remaining responses were collected bringing the number of completed responses to 478. After deleting 75 invalid responses, additional 111 responses were collected bringing the number of valid responses to 514.

Of the respondents (Table 1), females accounted for 330 of the responses or 64.2% and males numbered 176 or 34.2%, 8 respondents (1.6%) preferred not to disclose their gender identity, and none of the respondents identified as transgender. Of the respondents, 8.2% identified in the age group from 18 to 20, and 40.8% were 40 or older. The majority of the respondents (51%) were in the range of 21-39, which included members of the Millennial generation, ages 21-37. The Millennial generation respondents may offer opportunities for further comparative analysis given the interest in the consumer behavior of this segment of the population (Pew Research Center, 2018). Of the respondents, 47% had an associate's

degree or higher, 8.9% had a graduate degree. In terms of income, 62% reported annual income between $20,000 and $79,999, and 23.2% reported earnings of $80,000 or above.

Table 1

Demographic Characteristics of Sample

Demographic Characteristics		Frequency	Percent
Biological gender (*n* = 514)			
	Male	176	34.2
	Female	330	64.2
	Prefer not to disclose	8	1.6
	Transgender	0	0
Age (*n* = 514)			
	18 -20	42	8.2
	21 – 29	125	24.3
	30 – 39	137	26.7
	40 - 49	84	16.3
	50 or above	126	24.5
Education (*n* = 514)			
	Less than high school diploma	17	3.3
	High school diploma	115	22.4
	Some college, but no degree	134	26.1
	Associate's degree	70	13.6
	Bachelor's degree	126	24.5
	Graduate degree	46	8.9
	Other	6	1.2
Annual income (*n* = 514)			
	Less than $20,000	76	14.8
	$20,000 to $39,999	115	22.4
	$40,000 to $79,999	204	39.7
	$80,000 to $119,999	72	14
	$120,000 to $149,999	22	4.3
	Over $150,000	25	4.9

Brand Profile

Table 2 is a summary of hotel brands and the U.S. state where the hotel stays occurred. The preferred method for booking is noted in Table 2. The table details the brand where participants had stayed, upon which they based their response to the survey. The

selection of brands was noted for being predominantly hotels in the limited-service to mid-scale range (Chathoth, 2016).

Table 2

Hotel Brand Selection

Brand or Company	Percentage	Frequency	Brand	Percentage	Frequency
Hilton	12.65%	65	Sheraton	1.17%	6
Holiday Inn	11.48%	59	Travelodge	1.17%	6
Best Western	11.28%	58	Aloft	0.97%	5
Marriott	8.95%	46	Four Seasons	0.97%	5
Comfort Inn	7.20%	37	Fairmont	0.78%	4
Hampton Inn	5.45%	28	Howard Johnson	0.78%	4
Days Inn	4.86%	25	Ritz-Carlton	0.78%	4
Hyatt	4.86%	25	InterContinental	0.39%	2
Motel 6	3.70%	19	Omni	0.39%	2
La Quinta	3.11%	16	Ramada	0.39%	2
Doubletree	2.72%	14	Red Roof Inn	0.39%	2
Econo Lodge	2.72%	14	Renaissance	0.39%	2
Super 8	2.72%	14	Westin	0.19%	1
Independent, not brand	2.33%	12	Wingate Inn	0.19%	1
Crowne Plaza	2.14%	11	Loews	0.00%	0
Wyndham	1.75%	9	St Regis	0.00%	0
Fairfield Inn	1.56%	8	W Hotel	0.00%	0
Radisson	1.56%	8	Not stayed in hotel	0.00%	0

Note. n = 514.

Method for Booking and Favored Attributes

The preferred method for booking rooms (Table 3) was reported in six categories, with hotel company website ranking highest, followed by third-party booking sites. Of the respondents, 33.5% reported having used hotel company websites directly to book their stay, another 30.5% used third-party online travel websites and 16.1% called the hotel directly to book their stay. The order of hotel attributes identified as most important when selecting a hotel, in descending order included: price, location (71.2%), and “green image of hotel” (14.4%). Last, the number of nights spent in hotels is reported. Most respondents (53.7%)

stayed less than five nights per year in hotels, and 30.4% reported 6-10 annual nights stayed in hotels. All respondents reported hotel experiences within the United States with Florida being reported most often at 47 times. California was reported second with 40 visits; New York and Pennsylvania each had 31.

Table 3

Participants Method of Booking and Most Important Hotel Attributes

Preferred booking method	Frequency	Percent
Hotel company website	172	33.5
Specific travel site (e.g., Hotels.com, Expedia)	157	30.5
Call to book directly	83	16.1
Most prominent internet results	46	8.9
Family recommendations	40	7.8
Other	16	3.1
Attributes		
Price	215	41.8
Location	151	29.4
“Green” image of hotel	74	14.4
Brand	59	11.5
Other	15	2.9

Descriptive Statistics for Measures

Descriptive statistics reported in Table 4 include empirical items for each construct, mean and standard deviation, as well as the minimum and maximum for each item. These reported statistics showed the variation of each item for the constructs measured in the model. The constructs were: environmental concern, normative beliefs, self-image congruence, hedonic beliefs, sustainable practices, guest satisfaction, attitudinal loyalty, and involvement.

Table 4

Descriptive Statistics for All Items Used to Measure Model Constructs

Construct Items	*M*	*SD*	Min	Max
Environmental Concern				
I am extremely worried about the state of the world's environment and what it will mean for my future.	4.97	1.69	1	7
Mankind is severely abusing the environment.	5.28	1.57	1	7
When humans interfere with nature, it often produces disastrous consequences.	5.32	1.47	1	7
The balance of nature is very delicate and easily upset.	5.18	1.49	1	7
Humans must live in harmony with nature in order to survive.	5.58	1.35	1	7
Normative Beliefs				
My family (or relatives) thinks I should stay at a green hotel when traveling.	4.10	1.66	1	7
My friends think I should stay at a green hotel when traveling.	4.21	1.63	1	7
My colleagues (or co-workers) think I should stay at a green hotel when traveling.	4.16	1.61	1	7
Self-Image Congruence				
This hotel is consistent with how I see myself.	5.11	1.30	1	7
This hotel is consistent with how I would like to see myself.	5.21	1.31	1	7
This hotel is consistent with how I believe others see me.	5.05	1.30	1	7
This hotel is consistent with how I would like others to see me.	5.15	1.35	1	7
Hedonic Beliefs				
My own comfort is more important to me.	4.44	1.68	1	7
It takes more effort than it is worth.	4.11	1.74	1	7
My lifestyle (The quality of my hotel experience) would change for the worse.	3.91	1.74	1	7
Because of daily hassles (during my travel), I often forget such things.	4.40	1.65	1	7
Sustainable Hotel Practices				
My stay is enhanced with my participation in sustainable hotel practices.	4.81	1.46	1	7
My stay is enhanced by the use of energy saving light bulbs.	4.94	1.50	1	7
My stay is enhanced with the use of occupancy sensor or key-cards needed for room power.	4.86	1.46	1	7
My stay is enhanced with amenity dispenser in guest rooms.	4.93	1.38	1	7
My stay is enhanced with towel and bed linen re-use programs.	4.96	1.47	1	7
My stay is enhanced with the hotel use of local environmentally-friendly products and services.	5.19	1.41	1	7
Customer/Guest Satisfaction				
My choice to stay at this hotel was a wise one.	5.62	1.27	1	7
I think that I did the right thing when I purchased this stay.	5.72	1.14	1	7
This facility was exactly what I wanted for this stay.	5.72	1.19	1	7
Attitudinal Loyalty				
I would say positive things about this brand.	5.72	1.30	1	7
I would recommend this brand to someone who seeks my advice.	5.78	1.22	1	7
I would encourage friends and relatives to do business with this brand.	5.65	1.28	1	7
I would consider this brand my first choice to buy services.	5.51	1.37	1	7
I would do more business with this brand in the next few years.	5.64	1.35	1	7
Involvement				
The relationship that I share with [hotel name] is something that is very important to me.	5.10	1.49	1	7
I would rather stick with a brand that I know than try something that I am not very sure of.	5.28	1.39	1	7
The relationship that I share with the [hotel name] is something that deserves my maximum effort to maintain.	5.02	1.50	1	7
The hotel I stay at says a lot about who I am.	5.04	1.51	1	7

Note. Sample $n = 514$.

Measurement Model

The measurement model consisted of eight constructs. Among the eight variables, there are four motivating variables: environmental concern, normative beliefs, self-image congruence, and hedonic beliefs; and four endogenous variables: sustainable practices, guest satisfaction, attitudinal loyalty, and involvement. A CFA was conducted to measure the validity of the observed variables in relation to the latent constructs in the conceptual model.

Confirmatory Factor Analysis

The measurement model for the study was comprised of 34 measurement items. The estimation of the model was acceptable with a chi-square value of 1429.35 with 499 degrees of freedom; this was statistically significant at $p < .001$. Other fit indices reported included TLI = .925, CFI = .933, RMSEA = .06. When reporting goodness of fit, the following guideline for acceptable scores included RMSEA score ~ .06 or below, and CFI and TLI values ~ .95 or greater, indicating a good fit between the model and the observed data (Schreiber, Nora, Stage, Barlow, & King, 2006). The measurement items were found to have a factor loading ranging from .624 to .941, all registering within the acceptable range.

The correlation coefficients among the latent variables are shown in Table 5. The variables in the model (i.e., environmental concern, normative beliefs, self-image congruence, hedonic beliefs, sustainable practices, guest satisfaction, attitudinal loyalty, and involvement) were moderately to highly correlated with each other, with the range of correlations from −.003 to .80. Table 6 illustrates measurement items with the factor loadings and Cronbach's alpha estimates of the constructs. The Cronbach's alpha scores ranged from .85 to .93, placing the scores in the range of "very good" to "excellent" (Kline, 2010). CFA path model is shown in Figure 3.

Table 5

Correlation Coefficient of Constructs

Constructs	1	2	3	4	5	6	7	8
1. Environmental concerns	1							
2. Normative beliefs	.38**	1						
3. Self-image congruence	.42**	.49**	1					
4. Hedonic beliefs	.−12**	.17**	.17**	1				
5. Sustainable practices	.54**	.60**	.64**	.08*	1			
6. Guest satisfaction	.37**	.27**	.65**	.08*	.46**	1		
7. Attitudinal loyalty	.39**	.26**	.60**	−.02	.45**	.80**	1	
8. Involvement	.30**	.43**	.66**	.31**	.52**	.61**	.64**	1

Notes. **Correlation is significant at the 0.01 level 1-tailed. *Correlation is significant at the 0.05 level 1-tailed.

Table 6

Item Measurement Properties

Construct Items	Standardized Factor Loading	Cronbach's Alpha
Environmental Concern		.89
I am extremely worried about the state of the world's environment and what it will mean for my future.	.70	
Mankind is severely abusing the environment.	.82	
When humans interfere with nature, it often produces disastrous consequences.	.87	
The balance of nature is very delicate and easily upset.	.82	
Humans must live in harmony with nature in order to survive.	.72	
Normative Beliefs		.93
My family (or relatives) thinks I should stay at a green hotel when traveling.	.88	
My friends think I should stay at a green hotel when traveling.	.94	
My colleagues (or co-workers) think I should stay at a green hotel when traveling	.90	
Self-Image Congruence		.92
This hotel is consistent with how I see myself.	.86	
This hotel is consistent with how I would like to see myself.	.86	
This hotel is consistent with how I believe others see me.	.87	
This hotel is consistent with how I would like others to see me.	.87	
Hedonic Beliefs		.85
My own comfort is more important to me.	.72	
It takes more effort than it is worth.	.83	
My lifestyle (The quality of my hotel experience) would change for the worse.	.85	
Because of daily hassles (during my travel), I often forget such things.	.70	

Table 6

Item Measurement Properties (continued).

Construct Items	Standardized Factor Loading	Cronbach's Alpha
Sustainable Hotel Practices		.90
My stay is enhanced with the use of occupancy sensor or key-cards needed for room power.	.77	
My stay is enhanced with amenity dispenser in guest rooms.	.71	
My stay is enhanced with towel and bed linen re-use programs.	.75	
My stay is enhanced with the hotel use of local environmentally-friendly products and services.	.80	
Guest Satisfaction		.93
My choice to stay at this hotel was a wise one.	.89	
I think that I did the right thing when I purchased this stay.	.89	
This facility was exactly what I wanted for this stay.	.90	
Attitudinal Loyalty		.93
I would say positive things about this brand.	.84	
I would recommend this brand to someone who seeks my advice.	.89	
I would encourage friends and relatives to do business with this brand.	.90	
I would consider this brand my first choice to buy services.	.80	
I would do more business with this brand in the next few years.	.82	
Involvement		.86
The relationship that I share with [hotel name] is something that is very important to me.	.84	
I would rather stick with a brand that I know than try something that I am not very sure of.	.62	
The relationship that I share with the [hotel name] is something that deserves my maximum effort to maintain.	.82	
The hotel I stay at says a lot about who I am.	.80	

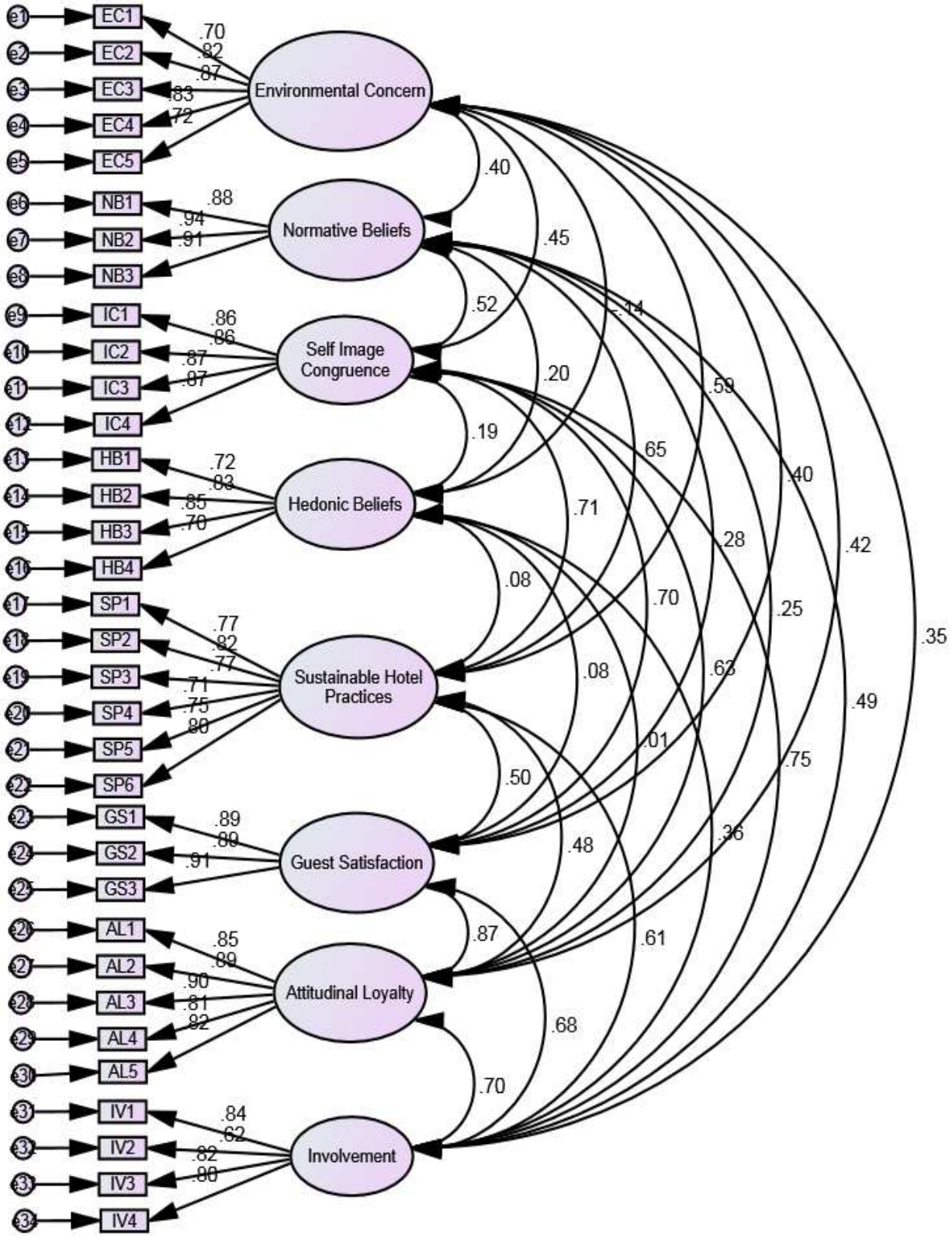

Figure 3. Confirmatory factor analysis.

Structural Model

The structural models shown in Figure 4 and 5 proposed the causal relationship among the four exogenous variables (i.e., environmental concern, normative beliefs, self-image congruence, and hedonic beliefs) and the three endogenous constructs (i.e., sustainable practices, guest satisfaction, and attitudinal loyalty). A SEM was estimated using maximum-likelihood (ML). The estimation was based on the assumption that multivariate normality was assumed for the population distribution. A correctly specified SEM can be estimated using ML with a population that shows no sign of being biased, in an efficient and consistent way (Kline, 2010). The figures reported are standardized path coefficient (β) and *t*-values for each of the significant path of the conceptual model.

Testing the Conceptual Model

The structural model is illustrated in Figure 4 showing the causal relationships among the constructs. All indices showed a satisfactory model fit (χ^2 = 1289.50, *df* = 393, $p < .001$, CFI = .927, RMSEA =.067). The chi-square ratio (χ^2/df) was 3.28, which was acceptable. The model had seven paths, six of which were direct effects. Of the direct effect paths, five were statistically significant: (a) the path from environmental concern to sustainable practices (β = .27, t = 6.49, p <.001), (b) the path from normative beliefs to sustainable practices (β = .31, t = 7.55, p <.001), (c) the path from self-image congruence to sustainable practices (β = .46, t = 10.30, p <.001), (d) the path from sustainable practices to guest satisfaction (β = .55, t = 11.72, p <.001), and (e) the path from guest satisfaction to attitudinal loyalty (β = .87, t = 21.00, p <.001). These results statistically supported H1, H2, H3, H5, and H6. That is to say, consumer motivations (i.e., environmental concern, normative beliefs, and self-image congruence) positively influence customers' participation in sustainable hotel practices, and

this participation significantly influences guest satisfaction and attitudinal loyalty, as illustrated in Table 7.

One hypothesis was not supported: H4, which predicted a positive effect of hedonic beliefs on customers' participation in sustainable practices. The regression weight for hedonic beliefs predicting motivation for SHP was not significantly different from zero ($\beta = -.026$, $t = -.747$, $p < .005$). The moderating effect of involvement on the relationship between sustainable practices and guest satisfaction H7 illustrated in Table 9 and Figure 6.

Table 7

Summary of Support for Hypotheses Based on the Result of SEM

Hypothesis	Path	Proposed Effect	Results
H1	Environmental concerns → Sustainable hotel practices	+	s
H2	Normative beliefs → Sustainable hotel practices	+	s
H3	Self-image congruence → Sustainable hotel practices	+	s
H4	Hedonic beliefs → Sustainable hotel practices	+	n
H5	Participation in sustainable hotel practices → Guest satisfaction	+	s
H6	Guest satisfaction → Attitudinal loyalty	+	s
H7	Moderating effect of involvement between SHP guest satisfaction	+	n

Note: n = non-significant; s = significant

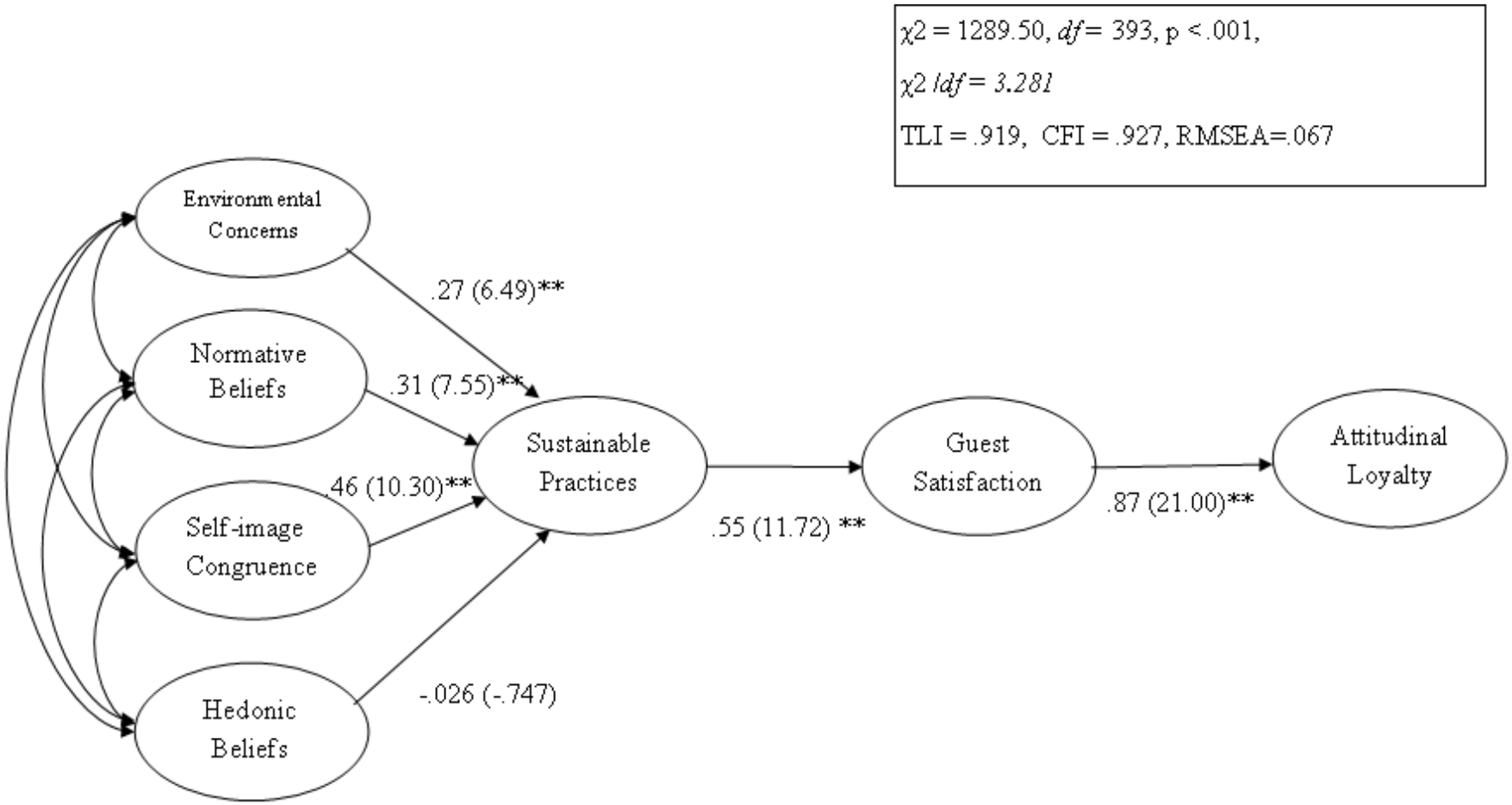

Figure 4. Standardized coefficients and *t* – values for paths in the conceptual model.
Note. p < .001**

Testing a Fully Recursive Model

A fully recursive model was constructed including all the plausible paths and estimated using SEM (Figure 5). The model generated 14 paths, with 8 more paths than the original model. The fully recursive model was significant at $\chi^2 = 903.08$, $df = 352$, $p < .001$. The model fit was satisfactory as well (TLI = .94, CFI = .95, RMSEA = .055). The chi-squared ratio (calculated at χ^2/df) was 2.56; landing between 1 and 3, the model fit was perceived as acceptable. The χ^2 value of the fully recursive model diminished to 903.08 with 352 *df,* which was statistically significant at $p < .001$. Comparing the two models, the fully recursive model indicated a better fit according to the goodness of fit indicators. Based on those results, the fully recursive model appeared to be more suitable than the conceptual model as presented in Table 8. The significant paths of the fully recursive model were the same as the conceptual model with one significant addition. The fully recursive model revealed a direct path from self-image congruence to guest satisfaction. The standardized path coefficient between self-image congruence and guest satisfaction was .79, which was statistically significant ($t = 6.50$, $p < .001$). This suggests self-image congruence may have a significant influence on guest satisfaction. A relationship between the two constructs was not proposed in the theoretical model. The fully recursive model also revealed that with the addition of a direct path from self-image congruence to guest satisfaction, the proposed path from SHP to guest satisfaction lost some of its predictive merits, is discussed in Chapter 5.

Table 8

Chi-square Test of the Model Comparison

	χ^2	*df*	χ^2/df	TLI	CFI	RMSEA
Conceptual model	1289.50	393	3.28	.91	.927	.067
Fully recursive model	903.08	352	2.56	.95	.95	.055
p	< .001					

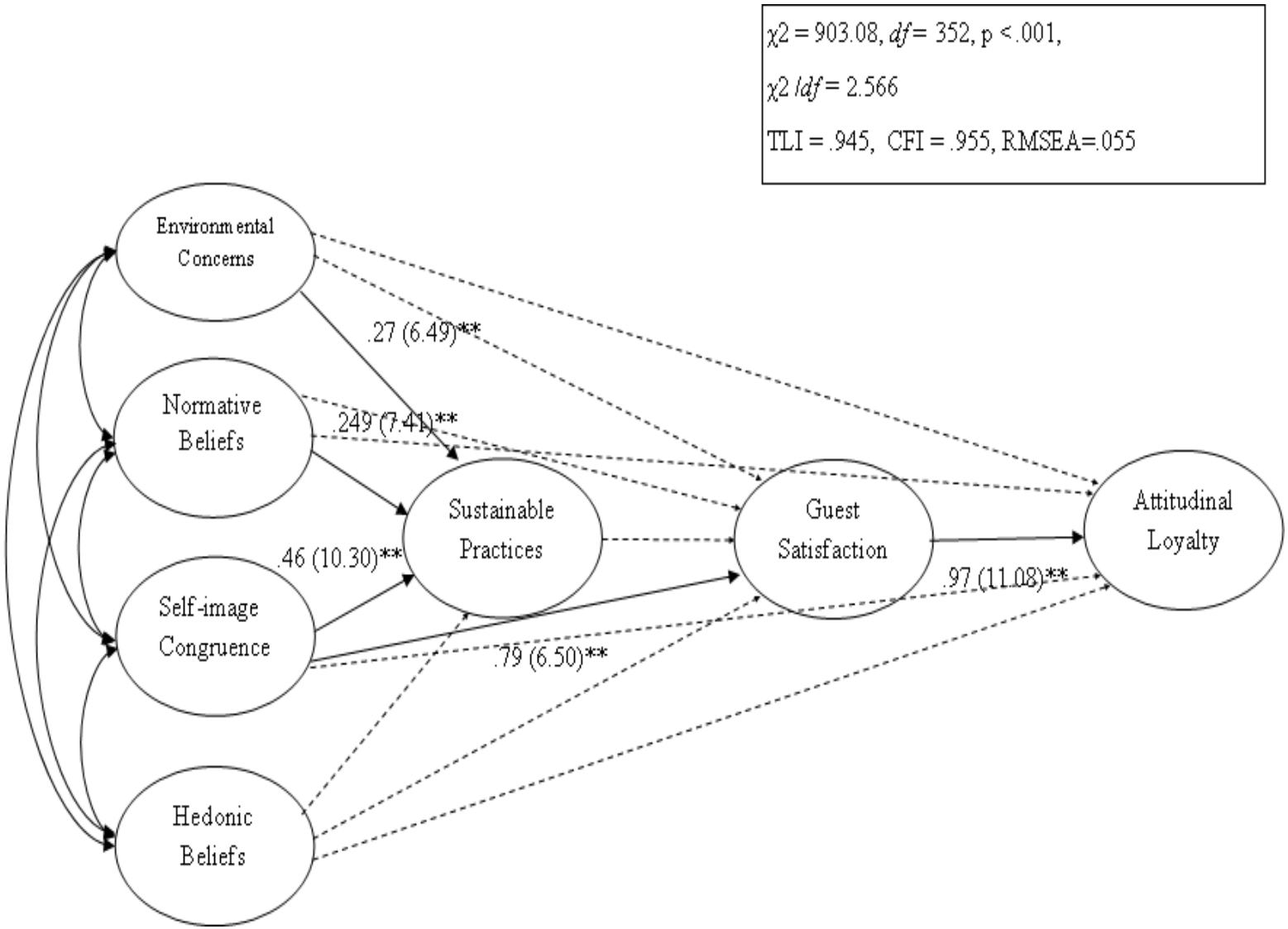

Figure 5. Standardized coefficient and *t*-values for paths in the fully recursive model.

Testing for the Moderating Effect of the Level of Involvement

The moderating effect of involvement was estimated using a correlation analysis framework as proposed by Baron & Kenny (1986). Baron & Kenny (1986) cited numerous studies in social psychology utilizing moderators to analyze the direction and strength of the relationship between two variables. The method is popular with researchers and practitioners, as it provides the researcher a useful way of communicating the difference in a simple to understand analysis. As a third variable the moderator "affects the zero-order correlation between two other variables" (Baron & Kenny, 1986, p. 1174) In the conceptual model, the moderating effect of *involvement* on the paths between *SHP* and *guest satisfaction* was examined. The test of the moderating effect was conducted using SPSS. A regression analysis was conducted using *SHP* as the predictor variable, *involvement* as a moderator variable, and *guest satisfaction* as the outcome variable. An additional variable was created to evaluate the interaction of the predictor and moderator. The variable was created by multiplying the product of the two, *SHP* x *involvement*. A model was tested with three causal paths on the dependent variable of *guest satisfaction*. If the interaction between the product of the two combined variables is significant it provides support for the moderator hypothesis (Baron & Kenny, 1986).

Running several varied models including the affected variables is recommended by Baron & Kenny (1986). Two models were tested to evaluate the effect of the moderator on the dependent variable: one model with the causal paths SHP, involvement and (SHP x involvement) and a second model with the addition of the four exogenous motivating variables: *environmental concern, normative beliefs, self-image congruence* and *hedonic beliefs*. Both models were statistically significant at, $p < .01$. The first model test revealed that

together the three predictors accounted for 39.4% of the variance in *guest satisfaction, w*ith R^2 =.397. The second model, including the exogenous motivating variables, accounted for 49.9% of the variance in *guest satisfaction,* with R^2 =.499. The result of both models revealed that the moderating effect proposed in H7 was not supported. The results of both regression models run independently revealed that the moderating effect proposed in H7 was not statistically significant and thus not supported. The coefficient score of the second model including the exogenous variables is reported in Table 9.

Table 9

Moderating Effect of Level of Involvement between SHP and Guest Satisfaction

	Path	Unstandardized Coefficients		
H7	Involvement in SHP on guest satisfaction		*t*	Significant
	Involvement	.119**	2.753	.006
	Sustainable Hotel Practices	.018	.147	.883
	SHP * Involvement	-.032	.004	.997
	Environmental Concern	0.105**	3.088	.002
	Normative Beliefs	-0.105**	-3.541	.000
	Self-image Congruence	0.405**	8.993	.000
	Hedonic Beliefs	-0.055*	-2.037	.042
Note	Dependent variable: Guest Satisfaction			

Note: **Correlation is significant at the p < 0.01, *Correlation is significant at the p < 0.05

CHAPTER 5. DISCUSSION AND CONCLUSIONS

This chapter details the primary implications of the findings of this study. Results are discussed, implications, limitations, and recommendations are advised for practitioners and future research.

Summary of Findings

The purpose of this study was to investigate guest motivations toward sustainable hotel practices and the resulting impact on guest satisfaction and attitudinal loyalty. This study revealed intrinsic motivations observed through *environmental concern* and *self-image congruence* (H1 and H3) positively influence customers to participate in sustainable hotel practices. Extrinsic motivation examined through *normative beliefs* and *hedonic beliefs* yielded mixed results. Normative beliefs (H2) were found to significantly influence participation in sustainable practices, but hedonic beliefs (H4) did not have a significant effect on motivations for SHP, thus, failed to reject the null hypothesis with a p-value = .455. The hypothesized causal relationship between SHP and *guest satisfaction* (H5) was shown to be positive. The relationship between *guest satisfaction* and *attitudinal loyalty* (H6) was consistent with the findings of Dick and Basu (1994) and Lee et al. (2010), who indicated a strong causal relationship between the two constructs. The moderating effect of involvement on the relationship between *SHP* and *guest satisfaction* did not turn out to be statistically significant; thus, hypotheses H7a and H7b were both rejected.

The results of the present study indicated customers' environmental concerns and desire for self-image congruence were positive motivators. The effect of normative and hedonic beliefs were motivators with less impact. Guests were highly satisfied with their stays in hotels offering SHP, and they were inclined to both say positive things about the

hotel and recommend it to those seeking advice. Guests showed their willingness to be involved in SHP, indicating brand fidelity.

The TPB provided a relevant theoretical framework for this study. TPB is a behavioral change model that posits individual consumer intention to engage in a particular behavior is predicated on his or her attitude toward the behavior, the influence that reference groups have on the individual, and the perceived behavioral control toward the action. Growing environmental concern among consumers suggests a favorable attitude toward the behavioral intention to engage in SHP. General consensus gathered from the sustainable hospitality literature reviewed for this study shows the greater society at large places a social normative pressure on consumers to behave in a sustainable manner. Consumers expect control over access to recycling and availability of energy saving opportunities; giving customers behavioral control is a defining element of TPB and appears to influence customer satisfaction with SHP.

Managerial Implications

The present study suggested a new approach may be warranted to encourage hotel consumers' participation in sustainable practices. Consumers who are concerned about the impact of their purchase choices on the environment are seeking options that have a minimal impact on natural systems and empower them to act in accordance with their interest. Enabling customers to make choices that align with their self-image, such as using energy-efficient equipment and choosing locally sourced products, increased satisfaction and improved attitude and loyalty toward the brand. Giving customers easy access to information on the impact of their actions and results of their choices may help them support their self-image as stewards of the environment.

Environmental Concern

Hotel guests are mindful of the environmental effects of their purchases and hold a positive attitude toward minimizing the impact of their stay (Prud'homme & Raymond, 2016). Guests report concerns about the environment, noting a particularly strong response to the measurement item listing "when humans interfere with nature it often produces disastrous consequences." Consumers report a higher eco-literacy and greater awareness of the environment in the context of ecopsychology, which explores the interdependence of humans and their habitat (Roszak et al., 1995). A greater guest awareness of the positive results of the efforts to mitigate the negative effect of the hotel operation on the environment helps to reinforce a positive environmental attitude, which is a positive antecedent to loyalty formation (Han et al., 2010; Manaktola & Jauhari, 2007).

This increased consumer awareness about the environment should prompt managers to actively communicate any and all of their efforts to mitigate the adverse environmental effects of their operation. Managers should focus on providing easy-to-understand information to their guests that outline their efforts toward sustainable practices to promote greater customer eco-literacy. The larger hotel companies have created sustainability officer positions, and they produce an annual report on their efforts to minimize the environmental impact of their operations. The world's leading hotel companies, as evaluated by Forbes magazine, include Marriott, Starwood, Hilton Hotels, and Intercontinental Hotel Group (IHG; Halah, 2017). The reports reviewed for this study on the sustainability efforts reported by the three hotel companies revealed the communication messages include mostly abstract numbers, which are difficult to comprehend. As an example, Marriott reported a "10.4% reduction in water intensity vs. 2007 baseline," but offered no specifics so that the numbers

could be verified or understood better by an average consumer who was interested in this topic (Marriott Hotels, 2018). IHG reported a 15% reduction in carbon footprint per occupied room in 2013-2017 over a 2012 baseline without indicating what the 2012 baseline was or a way of understanding the magnitude of this change (Intercontinental Hotel Group, 2018). Hilton, likewise, reported a reduction in waste output by 27.6% in six years but offered no relevant figure as a point of comparison (Hilton Hotels, 2018). Managers should focus on providing environmental communication that is easy to comprehend to which stakeholders can relate. Communicating the sustainability efforts more clearly and in an accessible format will enable deeply loyal customers to report the effort, share with others in a brand community, and affirm their shared identity as environmental stewards. Engaging in an effort to improve a local problem might prove to be an even more palpable effort. Marketers who are responsible for communicating the environmental efforts of the hotel can devise a system of guest participation whereby guests could direct how the local efforts are governed, by allowing involved guests to vote on where the hotel's environmental efforts are directed.

Normative Beliefs

Subjective norms or normative beliefs had the lowest mean score per construct of the four independent variables, with a combined indicator mean of 4.16 on a scale of 1 to 7. This may indicate a shift from the relative strength of reference groups to virtual communities. The increase in available user-generated-content (UGC) has shifted the importance of significant others to virtual communities with electronic word-of-mouth (eWOM) in the information search, retrieval, and purchase decision with hotels (Ladhari, & Michaud, 2015). Marketers and managers should use this change to their advantage by providing customers an opportunity to share their joint environmental stewardship with their virtual communities.

Providing customers remarkable information on the hotel's efforts on sustainable practices could provide the guest an opportunity for a Facebook posting or a Tweet, promoting the hotel on social media. An example of remarkable information could be sharing information on a hotel's use of beehives on hotel property for honey or rooftop gardens for herbs and seasonal vegetables. Providing guests with refillable branded water bottles and offering filtered fountain water in the hotel might be another salient way of getting the message of sustainability to resonate. Marketers should research ways to give their guests further positive stories to share with their online peer group, which are increasingly influential in hotel purchase choices.

In addition to eWOM, the hotel industry continues to be impacted by third-party travel agents that offer reviews and testimony from previous guests and a customer rating system based on a large sample size. Consumers have become comfortable trusting UGC/eWOM, often posting their own experiences and reviewing the experiences of other unknown travelers before visiting a destination. Consumer-to-consumer communication on the internet has become the most prevalent means of researching and evaluating hotel services with millions of photos, tweets and Facebook posts, including reviews and reports from vacation and hotel experiences (Ladhari & Michaud, 2015). The reference group that consumers rely on for information on hotel purchases may increasingly be shifting from friends and acquaintances to virtual communities, which might warrant further study.

Self-image Congruence

All four dimensions of self-image congruence were statistically significant in predicting customer motivation to engage in SHP. The results indicate self-image congruence with sustainable hotel practices is a more salient motivating factor than the currently

prevailing method of offering rewards or discounts for engaging in SHP. Guests reported a strong level of congruence with sustainable hotel practices, as predicted by the literature reviewed for this study. From a managerial perspective, marketers should try to enhance the alignment of guest perception of their own image with the image of the hotel as sustainable and minimize the gap between the hotel and customer image (Sirgy, 1982). Based on the strength of the relationship between the self-image of the guest and the image of the hotel brand in the studied context of sustainable practices, it could be inferred that if hotels do not adequately engage in SHP, it may cause cognitive dissonance for environmentally conscious guests. Guests will evaluate the purchase of a hotel stay and compare it to the expectation they have mentally formed based on marketing material or word-of-mouth. If the guest's experience with the hotel fails to meet their expectations or disconfirms beliefs about the ecological identity of the hotel, the guest may experience psychological discomfort, which may lead to a greater negative impact on satisfaction than simply by the service not meeting expectations (Oliver, 1980).

Managers can employ sustainability identity resources such as lapel pins denoting environmental stewardship or a level of "green" membership in a rewards program. These identity resources could provide the guest a resource with which to affirm the hotel's identity as a steward of the environment. Using identity resources has positively impacted guests to engage in sustainability efforts both in purchasing behavior and during their stay, leading to greater guest satisfaction (Baca-Motes et al., 2013). The identity resource can be used to segment guests and pre-select those who have a specific environmental interest or concern and communicate the brand efforts more specifically aligned with the guests' self-identified interest, potentially deepening the brand relationship. To take it one step further, if guests are

offered an opportunity to be involved in choosing how the brand directs the stewardship funding, it can give them an even stronger sense of shared identity. Specific efforts on behalf of a brand to care for a local environmental resource has resulted positively in guests' perceptions of a sense of shared identity, especially when guests are invited to participate in making a choice about which resource to care for (Baker et al., 2014; Millar et al., 2012). Sustainability-minded hotel companies can use self-image congruence via clear communication and collaborative efforts with their customers to build a shared sense of brand community.

Hedonic Beliefs

The academic perspectives about the strength of hedonic beliefs as motivators in the green hotel context differ. Some authors have argued hedonics play an important role in consumer brand relations. Marketers use hedonic messages to communicate promises of pleasurable indulgences and luxurious accommodations as a way to differentiate their services. Some researchers have argued customers care about their own comfort above saving the planet. Miao and Wei (2013) discovered customers were least likely to engage in SHP when they had to compromise on their personal comfort; however, when guests were nudged, they would participate in sustainable practices and forgo services for a reward, lending credence to the hedonic rewards approach.

The present study found insufficient evidence for the positive, motivating effect of hedonic beliefs on SHP. Of the exogenous constructs measured as motivating variables in this study, hedonic beliefs held the least predictive power for encouraging guests to participate in SHP. The statistical analysis used to estimate the likelihood that hedonic beliefs significantly motivated customers to engage in SHP failed to provide supporting evidence.

SEM, used to analyze the data for this study, uses a combination of statistical methods to evaluate the following: does the model makes theoretical sense, is it reasonably parsimonious, and is the correspondence to the data acceptable (Kline, 2010). The evaluation of hedonic beliefs for this study drew from relevant literature for theoretical implications, and the measurements were tested for content validity. Utilizing SEM, this study examined possible pathways and connections between hedonic beliefs and other constructs using a recursive model. The recursive model tests any connection between any of the constructs in the model. Testing of the recursive model did not yield a statistically significant connection between hedonic beliefs and any of the other endogenous variables.

The results of the present study do little to establish a direct effect of hedonic beliefs as a motivating approach to SHP. The statistical models tested for this study all corroborated that the effect of hedonic beliefs, as a motivator for guests to engage in sustainable hotel practices, was insufficient. In practice, however, hedonic rewards remain the most commonly used method by hotels to promote sustainable practices with extrinsic rewards in the form of loyalty rewards points and cash discounts ("Make a green choice," 2018). A shift away from the use of hedonic rewards requires acceptance of the limited theoretical evidence to support hedonic rewards as a motivator for engagement in SHP. A critical review of potential alternatives, possibly in combination with rewards, is warranted. The results of this study seem to suggest a ground shift is necessary. Promoting SHP through the use of hedonic rewards may not be the best use of resources or the most cogent long-term marketing strategy.

Sustainable Practices

The results of the present study suggest consumers have a favorable view of SHP and their participation in SHP is important to them. This construct, central to this study, is fairly straightforward—guests seem to be starting to take these practices for granted and assume the hotels where they stay are engaging in efforts to minimize the environmental impact (Barber, 2014; Berezan et al., 2013; Millar et al., 2012). For managers, this means sustainable practices are acceptable to consumers and, as indicated in the literature, have become an expected part of hotel operations. Five indicators were included in the evaluation of the SHP construct. Of those, the indicator that received the highest score on a 7-point Likert scale was the use of locally sourced, environmentally-friendly products at $\mu = 5.19$. Towel and bed linen use was rated at $\mu = 4.96$, and the use of energy-efficient light bulbs at $\mu = 4.94$. The rating for the use of occupancy sensors or keycards needed for power and amenity dispensers in guest rooms was rated lower at $\mu = 4.93$ and $\mu = 4.86$ respectively. What may be inferred from the results of the survey, judging by the indicator's mean score, is that consumers more favorably rate passive SHP than SHP that require more effort on the part of the hotel guest. As an example, needing to use a keycard to turn on lights and AC requires more action from the guest than using products that have already been locally sourced by the hotel. Furthermore, these results show consumers favor the use of locally-sourced products and may perceive them as a central part of a sustainability effort (Prud'homme & Raymond, 2016). This may warrant a further study to investigate the effects of passive versus active SHP on guest satisfaction. Managers may want to review the role of active participation in SHP, whether they install structural changes or rely on guests' active participation or leave it up to the customer to select.

Customer Satisfaction

A plethora of literature has discussed the potential relationship between sustainable practices and customer satisfaction (Berezan et al., 2013; Han et al., 2009; Han et al., 2010; Manaktola & Jauhari, 2007). The results of the present survey reaffirm the correlation between engaging customers in sustainable activities and the subsequent effect on their satisfaction with a hotel stay. It can be further argued that deepening the connection between the brand and the guest experience through involving the guest in positive, sustainable practices enhances trust in the brand and makes the customer more accepting of the brand's future communication about sustainable actions (Martínez, 2015). Communicating with customers on matters relating to sustainable actions on behalf of the brand community provides a platform for the brand to discuss in detail the results of their actions and engage with their community of stakeholders, building stronger relationships (Berezan et al., 2013; Chaudhuri & Holbrook, 2001). Managers should utilize this potential for a trusting relationship built on participation by highlighting tangible evidence of environmental stewardship of the brand. Doing so will enhance the customer's image of the brand and may influence decision-making on future purchases, essentially offering a mental shortcut when choosing between brands (Lee et al., 2010). Marketers should take advantage of the potential for "green" image congruence between the brand or product and the customer, a powerful antecedent to satisfaction and a primary goal of hotel firms seeking to minimize the draw of competing brands (Kressmann et al., 2006). Conversely, if practitioners are not careful to clearly communicate their sustainability efforts, it may confuse the customer and lead to an adverse effect on satisfaction (Millar & Baloglu, 2012). Practitioners' clear communication of sustainability efforts promotes positive customer attitudes, which may lead to positive

word-of-mouth, which in turn increases profits and strengthen the brand (Han et al., 2009; Oliver, 1997).

Attitudinal Loyalty

Of the constructs examined in this study, attitudinal loyalty received the highest average response with a $\mu = 5.66$, on a Likert scale of 1 to 7. The scale for the measurement of attitudinal loyalty was based on the seminal work of Zeithaml et al. (1996). The antecedents to attitudinal loyalty include commitment and trust. Marketers who accurately and constructively report the efforts of operators to improve the sustainability of hotel operations are likely to gain trust and consumer commitment to the brand. A strong sustainability reputation of a brand with differentiation based on concern for the environment is shown to be a strong antecedent to attitudinal loyalty. Lee et al. (2010) reported that an image based on "green practices" strongly influences the pre-purchase evaluation by offering a mental shortcut when selecting a hotel stay. In other words, a potential guest's attitude can form without having actually experienced the product or service, by elevating awareness of the property's sustainable practices, knowing they are a particularly important antecedent to a positive attitude in hotel selection (Prud'homme & Raymond, 2013).

Meaningful sustainability communication that is easy to understand and elicits trust aids in the pre-purchase evaluation and is likely to positively influence attitudinal formation toward a brand. Concrete action by hotels toward a more sustainable operation, coupled with clear communication and guest participation, may lead to positive eWOM and virtual community sharing, building a foundation for attitudinal loyalty.

Guest Involvement

Respondents to the survey rated their interest in involvement with a hotel relatively high on a scale of 1 to 7 with a $\mu = 5.11$. Despite failing to moderate the path between *SHP* and *guest satisfaction,* involvement is still a relevant construct to consider in relationship marketing. Consumers' interest in engaging in sustainable practices for the services they receive reportedly grows as their personal beliefs about the negative impact of the same services grows (Baker et al., 2014). This would infer as consumers become more environmentally concerned, the level of interest in involvement grows. Many firms rely on involvement as a component of their marketing strategy, aligning activities and services with consumer's professed preferences, thereby promoting a feeling of personal relevance with the product, service, or brand (Millar et al., 2012). This would warrant future consideration on behalf of marketers and managers, as it is the opinion of this author that involvement in sustainable actions provides a meaningful forum for image congruence between consumer and brand.

Cultural Change Toward Sustainability in Hotels

Consumers' positive attitude toward sustainable action is growing. The literature reviewed for this study, across disciplines, all concurs there is a heightened awareness of environmental issues among consumers and stakeholder demands for sustainable action are growing more significantly. Hotel practitioners should use this change to their advantage and include stakeholders in sustainability efforts. By communicating the resource challenges of hotel operations clearly to all participants, including employees, suppliers, managers, owners, investors, and guests, practitioners can draw from all vantage points and gain greater engagement. The hotel industry has used this approach to a cultural change before. The cost

of loss-time accidents in the hotel industry was an endemic problem. Through stakeholder engagement, enhanced communication, solicitation for input from all participants and importantly, commitment from senior management, workplace injuries fell, across industries, from 5 reported cases per 100 full-time workers to 3.3 over the period from 2003 to 2013 (Bureau of Labor Statistics, 2017). Loss-time accidents were dramatically reduced in hotels through the use of communication and safety games, inviting friendly competition between departments, reducing the rate of costly incidents as much as 63% per year on average over four years (Occupation Safety & Health Administration, 2012). In this same manner, practitioners should solicit suggestions and input on sustainability initiatives from all stakeholders and seek ways to reward suggestions that meet criteria with a focus on real savings and customer service. The success of the cultural change employed for loss-time accident reduction could work using the same methods of stakeholder engagement, resulting in financial savings, image enhancement, and a better environment, figuratively and literally.

Theoretical Implications

This study contributes to the literature of sustainable hotel practices, self-image congruence, and environmental concern. Previous studies have examined the application of the TPB in the green hotel context. Examining the motivating factors of attitude, subjective norms, and perceived behavioral control in the green hotel context, this study adds the perspective of self-image as a motivator. The strength of customer self-image in the sustainability context has not been examined along with the motivating variables used in this study. This study brings attention to the weakness of hedonic beliefs as a motivating factor for consumer engagement in SHP. The context of environmental concern and sustainable practices may have a significant impact on how respondents view their own comfort; this

would warrant further study. The moderating effect of involvement on the path between SHP and guest satisfaction was examined, despite insufficient statistical significance, customer involvement in other similar studies has revealed a relevance (Millar et al., 2012). This study further adds to the literature on loyalty formation and the strength of guest satisfaction on attitudinal loyalty in the context of sustainable hotel practices. This study additionally suggests customer may purchase services and participate in sustainable practices to build or support their self-image, not just for the utility of the services (Sirgy et al., 1997). This study adds to the literature by empirically supporting the importance of congruence between customer self-image and hotel image.

To conclude, consumers are concerned about the state of the environment, and as this study suggested, the subjective norm placed by the greater society has an impact on both consumer choices and the hotels they prefer. This study suggested the self-image congruence with a hotel is more important to guests than the benefits and utility the hotel stay alone would provide.

Limitations and Recommendations for Future Research

The present study has some limitations that should be addressed. The study evaluated the variables discussed in the context of green hotels, which may have had an effect on the respondents, who were given the definition of sustainable practices at the beginning of the survey. This may have caused the respondents to hold a certain prejudice toward environmental issues. In addition, the respondents were being rewarded as members of a response panel (by Qualtrics), which may have led to inaccurate responses as the respondents may be motivated by the rewards they receive for completing the survey. Conversely, the fact that respondents received a reward for a survey seeking to examine the effect of rewards may

have an impact. Furthermore, the study did not segregate respondents by the purpose of the hotel visit. While prior studies have compared various segments of visitors divided by demographic categories or psychographic preferences, this study did not. Tanford and Malek (2015) found behavioral segments responded differently to involvement in sustainable activities, which had a different impact on loyalty formation. Investigations in future studies in the sustainable hotel practice literature may want to use the statistical method of exploratory factor analysis (EFA). EFA is not generally considered part of the SEM family of statistical methods, it is however useful whereas the EFA does not rely on prior hypotheses (Kline, 2010). Future studies could examine the difference in preference for sustainable hotel practices based on age group or purpose of visit. The relationship between the customer method of booking and the subsequent reported loyalty towards the hotel warrants future examination. Booking channels have been found to impact choice and the psychological process of consumers (Liu, & Zhang, 2014). Channel choice and subsequent impact on satisfaction and loyalty warrant further study.

Consumers' level of interest in involvement changes in relation to their beliefs and has an impact on loyalty (Amendah & Park, 2008; Millar et al., 2012). The present study failed to establish a moderating effect on the path from SHP to guest satisfaction; however, correlation between the constructs of involvement and attitudinal loyalty and involvement and self-image were significant and warrant further study. Providing opportunities for consumers to enhance their self-image in association with the brand through involvement may have a positive and heightening effect on brand loyalty through enhanced commitment and trust. Involvement, in the context of sustainable practices, warrants further examination. Further study may also be warranted concerning the interests of stakeholders, especially

guests, in having autonomy over where and how the hotel's sustainability efforts are to be placed.

Final Summary

In this instance, theory has something important to offer practitioners. The theoretical model investigated in this study provided supporting evidence that practitioners may not currently be using the most salient methods for customer engagement in sustainable practices. The results of this study suggested the current practice of encouraging customers to engage in SHP with external rewards should give ways to motivation based on customers' innate interests in the environment and desire to be identified as environmental stewards. A majority of consumers want to be seen as environmentally friendly and they want to make sure their consumption is not adversely affecting the planet. Hotel practitioners should focus on easy and approachable communication of the efforts they are undertaking to make their operation more sustainable and minimize environmental impact. Communication of this kind has the potential to strengthen loyalty and enhance profitability.

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APPENDIX A: QUESTIONNAIRE FOR STUDY

Survey on Guests' Motivations for Sustainable Hotel Practices

Dear Participants:

Purpose of the study
You are being invited to participate in a research study by completing a short survey. The study intentions are to evaluate what motivates hotel guests to participate in sustainable practices, and the resulting effects.

Participant rights
You can participate in this study if you are 18 years or older and have made decisions about a hotel stay in the last six months. The survey will take about ten minutes to complete. There are no foreseeable risks associated with participation in the study and your participation is completely voluntary.

Confidentiality
All information gathered in this survey will be kept completely confidential. No information, written or oral, will be able to link you to this study in any way. Your responses will be completely anonymous and will not be able to be linked to your name or email.

Contact Information
If you have any questions or have concerns regarding this study, please contact Magnus Thorsson at thorsson@iastate.edu or Dr. Liang (Rebecca) Tang at rebeccat@iastate.edu. This study was approved by the Institutional Review Board at Iowa State University (IRB ID 18-025). If you have any questions about the rights of research subjects, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Assurances, 1138 Pearson Hall, Iowa State University, Ames, Iowa 50011.

Your effort in participating in this research project are deeply appreciated.

Evaluation of Guests' Motivation for Sustainable Hotel Practices

Definition of "Sustainable Hotel Practices/Green Hotel"
Sustainable hotel practices include saving water and electricity, using eco-friendly or locally sourced products, reducing carbon emission, recycling and minimizing solid waste all with the purpose of lessening the overall negative environmental impact of hotel operation.

<u>Section 1</u>. Before participating in this survey please think of a hotel stay you have enjoyed in the last 6 months which conducted the sustainable practices mentioned above. Choose ONE from the list of hotel brands provided and include the location. Should you not find the brand or hotel you stayed at please write it in the space provided at the bottom of the list. If you have NOT stayed in a hotel in the last 6 months, terminate the survey thank you.

Brand	State	Brand	State
Aloft		Loews	
Best Western		Marriott	
Comfort Inn		Motel 6	
Crowne Plaza		Omni	
Days Inn		Radisson	
Doubletree		Ramada	
Econo Lodge		Red Roof Inn	
Fairfield Inn		Renaissance	
Fairmont		Ritz-Carlton	
Four Seasons		Sheraton	
Hampton Inn		St Regis	
Hilton		Super 8	
Holiday Inn		Travelodge	
Howard Johnson		W Hotel	
Hyatt		Westin	
InterContinental		Wingate Inn	
La Quinta		Wyndham	
Independent (Non brand)			

Section 2. Motivation for guests' participation in hotel sustainable practices.

We are interested in how much your concern for the environment affects your willingness to participate in sustainable hotel practices.	**Strongly Disagree**						**Strongly Agree**
I am extremely worried about the state of the world's environment and what it will mean for my future.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Mankind is severely abusing the environment.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
When humans interfere with nature it often produces disastrous consequences.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
The balance of nature is very delicate and easily upset.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Humans must live in harmony with nature in order to survive.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

We are interested in how the opinion of others you know affects your participation in sustainable hotel practices.	**Strongly Disagree**						**Strongly Agree**
My family (or relatives) thinks I should stay at a green hotel when traveling.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My friends think I should stay at a green hotel when traveling.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My colleagues (or co-workers) think I should stay at a green hotel when traveling	**1**	**2**	**3**	**4**	**5**	**6**	**7**

We are interested in how your own image affects your willingness to participate in sustainable hotel practices.	**Strongly Disagree**						**Strongly Agree**
This hotel is consistent with how I see myself.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
This hotel is consistent with how I would like to see myself.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
This hotel is consistent with how I believe others see me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
This hotel is consistent with how I would like others to see me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

We are interested in how your own personal comfort affects your willingness to participate in sustainable hotel practices.	**Strongly Disagree**						**Strongly Agree**
My own comfort is more important to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
It takes more effort than it is worth.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My lifestyle (The quality of my hotel experience) would change for the worse.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Because of daily hassles (during my travel), I often forget such things.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 3. Sustainable hotel practices

We are interested in knowing how important participating in sustainable hotel practices is to you.	**Strongly Disagree**						**Strongly Agree**
My stay is enhanced with my participation in sustainable hotel practices.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My stay is enhanced by the use of energy saving light bulbs.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My stay is enhanced with the use of occupancy sensor or key-cards needed for room power.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My stay is enhanced with amenity dispenser in guest-rooms.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My stay is enhanced with towel and bed linen re-use programs.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
My stay is enhanced with the hotel use of local environmentally friendly products and services.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 4. Attitude and behavior towards hotel sustainable practices.

We are interested in how participation in sustainable hotel practices affects how satisfied you are with your stay.	**Very Dissatisfied**						**Very Satisfied**
My choice to stay at this hotel was a wise one.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I think that I did the right thing when I purchased this stay.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
This facility was exactly what I wanted for this stay.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

We are interested in knowing if participation in sustainable hotel practices affects your attitude towards the hotel and the hotel brand.	**Very Unlikely**						**Very Likely**
I would say positive things about this brand.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I would recommend this brand to someone who seeks my advice.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I would encourage friends and relatives to do business with this brand.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I would consider this brand my first choice to buy services.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I would do more business with this brand in the next few years.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

We are interested in knowing how being involved in sustainable hotel practices affected your attitude towards the hotel.	**Strongly Disagree**						**Strongly Agree**
The relationship that I share with [hotel name] is something that is very important to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I would rather stick with a brand that I know than try something that I am not very sure of.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
The relationship that I share with the [hotel name] is something that deserves my maximum effort to maintain.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
The hotel I stay at says a lot about who I am.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

<u>Section 5.</u> Please tell us about yourself.

1. **What is your gender?** ❍ Male ❍ Female ❍ Prefer not to disclose ❍ Transgender

2. **Please check your appropriate age-group?**

❍ 18- 20 ❍ 21-29 ❍ 30-39 ❍ 40-49 ❍ 50 or above

3. **What is the highest level of education you have completed?**

❍ Less than high school diploma ❍ High school diploma ❍ Some college, but no degree ❍ Associate's degree ❍ Bachelor's degree ❍ Graduate degree (Master's or Doctoral) ❍ Other, please specify_____

4. **Annual household income before taxes**

❍ Less than $20,000 ❍ $20,000 to $39,999 ❍ $40,000 to $79,999
❍ $80,000 to $119,999 ❍ $120,000 to $149,999 ❍ over $150,000

5. **How many overnights stays did you do in hotels last year?**

❍ 1-5 ❍ 6-10 ❍ 11-15 ❍ 16 or more

6. **When you shop for hotels what hotel attributes are most important to you?**

❍ Price ❍ Location ❍ Brand ❍ "Green" image of hotel ❍ Other

7. **When you search or book hotels what is your preferred method?**

❍ Hotel company website ❍ Specific travel site (Hotels.com/Expedia etc.) ❍ Most prominent web results ❍ Call to book directly ❍ Family recommendations ❍ Other

APPENDIX B: APPROVAL OF THE USE OF HUMAN SUBJECTS

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 1/25/2018

To: Magnus Thorsson
18 Ernest St
Barrington, RI 02806

CC: Dr. Liang Tang
12 MacKay Hall

From: Office for Responsible Research

Title: Investigating guest motivations for sustainable hotel practices

IRB ID: 18-025

Study Review Date: 1/25/2018

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
  - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
  - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**

- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

  Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

  Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please be aware that **approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.